



**TECHNICAL MEMORANDUM NO. 13  
PILOT-SCALE TREATABILITY STUDY  
FOR RESERVOIR LIQUIDS REMOVAL  
(REVISION 1.0)**

*Prepared for:*

**United States Environmental Protection Agency**

*Prepared by:*

**TRC**

Irvine, California

*Representing:*

**Waste Disposal, Inc. Group**

Project No. 94-256

March 1999

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**WASTE DISPOSAL INC.  
SUPERFUND SITE  
Project Coordinator**

March 25, 1999

Project No. 94-256

Mr. Mark Filippini  
U.S. Environmental Protection Agency  
75 Hawthorne Street, No. H-7-2  
San Francisco, California 94105-3901

Transmittal  
Technical Memorandum No. 13 (Revision 1.0)  
Pilot-Scale Treatability Study  
for Reservoir Liquids Removal  
Waste Disposal, Inc. Superfund Site


Dear Mr. Filippini:

Enclosed you will find a copy of Technical Memorandum (TM) No. 13 Pilot-Scale Treatability Study for Reservoir Liquids Removal, Revision 1.0, for the Waste Disposal, Inc. (WDI) Superfund Site located in Santa Fe Springs, California. This submittal is consistent with the timetables noted in your March 11 and 19, 1999 letters.

Also attached is a table which are the Responses to the March 11 and 19, 1999 EPA Comments on the TM No. 13 Pilot-Scale Treatability Study for Reservoir Liquids Removal (Rev. 0), respectively. As previously discussed, TM No. 13 field activities are anticipated to begin on April 19, 1999.

Please feel free to call me with any questions or comments at (562) 692-4535.

Sincerely,



Ian Webster  
WDIG Project Coordinator

IW/EA:im  
Enclosures

cc: Andria Benner, EPA  
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**RESPONSE TO MARCH 11, 1999 EPA COMMENTS ON  
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EPA CONCERN/COMMENT	RESPONSE TO COMMENT
<b>General Comments</b>	
1. The criteria for determining whether a waste stream is a hazardous waste should be specified in the TM. It is assumed that it is the disposal facilities acceptance criteria; please specify. Also include a copy of the acceptance criteria for each of the disposal facilities in an appendix.	1. TM No. 13 will include the criteria for determining whether the liquids extracted from the reservoir are a hazardous waste. This determination will be based on State and Federal Hazardous Criteria and the disposal facilities acceptance criteria.  1A. A copy of the disposal facilities acceptance criteria will be included as an attachment to TM No. 13.
2. Details of the sampling and analysis procedure should also be specified in the TM. See specific comments below.	2. Details of the sampling and analysis procedures during the treatability study will be included in TM No. 13. During the first month of operations, a sample will be collected once a week from the extraction wells and a composite sample from the storage containers. Samples will be analyzed for the constituents provided on Table 1 in TM No. 13. After the first month of operating the system sampling will be reduced to one sample per month.
3. No well shall be removed from service or destroyed without prior approval by the regulatory agencies. If any well is removed from service for lack of product recovery or hazardous waste criteria, it will be the intent of the agencies to leave the well in place throughout the Treatability Study to observe potential seasonal variations in the well.	3. WDIG will leave all TM No. 13 wells in place throughout the remainder of the Treatability Study. If a well is removed from the system (i.e., extracted liquids meet hazardous waste criteria or lack of liquids recovery), liquid levels will be monitored manually.
4. The Liquids Subcommittee may implement periodic, temporary shutdowns of the system in order to observe liquid recovery rates and levels, system-wide. The schedule of these shutdowns will depend on liquid recovery rates and levels observed throughout the Treatability Study. WDIG, as part of the subcommittee, will be involved in the determination of the timing and duration of these shutdowns.	4. Any changes to the approved TM No. 13 workplan should be decided by the Liquids Subcommittee.
5. The agencies are interested in implementing the Treatability Study as soon as possible. Therefore, EPA has expedited turnaround of our comments on TM 13 to the WDIG. Receipt of these comments two weeks ahead of the proposed schedule should result in a two week compression of the schedule. Please adjust the schedule accordingly.	5. WDIG will initiate TM No. 13 field activities on April 19, 1999.

**TRC**

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EPA CONCERN/COMMENT	RESPONSE TO COMMENT
<b>Specific Comments</b>	
<p>1. Section 1.0, Paragraph 1: The purpose of the study is to provide quantitative data on the rate of liquids removal from the reservoir given the highly heterogeneous nature of the reservoir contents. The results of the study may allow focusing selected areas of the reservoir for limited liquids recovery as part of the final remedy. Although it is recognized that cost is one of nine CERCLA/NCP factors considered during remedy selection, the WDIG should be prepared to compare liquids extraction using wells with other actions in addition to no action (or seek an ARAR waiver).</p>	<p>1. WDIG will be prepared to compare liquids extraction using wells with other technologies in addition to no action (or seek an ARAR waiver) pending the results of the Treatability Study as part of the Feasibility Study.</p>
<p>2. Section 1.0, Paragraph 2: This paragraph states that the reservoir was filled in with oil field production waste. However, the reservoir also contains concrete and other debris, and chemicals such as TCE, PCE, 1,1,1-TCA and PCBs. The text needs to be revised to state that solvents and PCBs were disposed in the reservoir.</p>	<p>2. The text will be revised to state that concrete and other miscellaneous debris have been observed in the reservoir, in addition to solvents and PCBs which have been detected in samples collected from the reservoir media during previous reservoir investigations.</p>
<p>3. Section 3.0, Paragraph 1. We know that liquids can be removed using pumps. The 1998 studies proved that. Unfortunately the 1998 studies were not implemented long enough to produce a discernable affect on reservoir liquid levels. We do not know how long it will take to remove liquids to minimal recovery rates so that the ARAR can be addressed. We agree that the study outlined in this TM will "allow for a better evaluation of reservoir hydraulics" that will also "achieve a substantial removal of reservoir liquids." The term "substantial" used in this paragraph should reflect the recoverable "free liquids" and not just liquids in general.</p>	<p>3. The text will be revised to state, "achieve a substantial removal of reservoir free liquids."</p>



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EPA CONCERN/COMMENT	RESPONSE TO COMMENT
<b>Specific Comments (Continued):</b>	
4. Section 3.0, Paragraph 2, second bullet. "Cost-effectiveness" will require a comparison to other methods, not just no action. The effort proposed here is a low-technology approach with the significant cost related to liquids treatment and disposal, not extraction.	4. The overall feasibility evaluation of reservoir liquids removal will be addressed as part of the FS.
5. Section 4.0, Paragraph 4. The acceptance criteria of the waste treatment/disposal facilities need to be included to ensure that the analytical methods meet the limits set by the facilities.	5. See Response to General Comments Nos. 1 and 1A.
6. Section 4.0, Paragraph 7, second bullet. WDIG needs to review the TM No. 6 sampling procedures to make sure that they are directly applicable to TM No. 13 sampling. For example, please assure that TM No. 6 addresses the sampling from a port installed within a well extraction pipe and sampling from a peristaltic pump tubing. Any variances from the TM No. 6 procedure need to be addressed in TM No. 13.	6. See Response to General Comments No. 2.
7. Section 4.0, Paragraph 8. The frequency of inspection during the first 24 hours needs to be specified. One must assume that the system and piping will be monitored continuously for at least the first two hours. Please specify when checks will be reduced and to what frequency; every hour, every two hours, etc.	7. The system will be monitored continuously for the first 12 hours of operation, or longer if necessary. Monitoring will then be reduced to every 4 hours for the next 48 hours (daylight hours only). At the completion of the initial 72 hours of monitoring, the monitoring frequency will be changed to once every day for a week, then to once a week for every month or as necessary based on recovery rates, tank capacities and monitoring systems. At that time the Liquids Subcommittee will determine an ongoing monitoring schedule.
8. Section 5.0, Paragraph 1. Again, the frequency of checking the system must be presented. Once per day, once every two days, etc.	8. See Specific Comment No. 7.

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EPA CONCERN/COMMENT	RESPONSE TO COMMENT
<b>Specific Comments (Continued):</b>	
9. Section 5.0, Paragraph 4, first bullet. Hazardous waste delineation criteria must be presented in the plan, particularly in relation to the acceptance criteria of the receiving facilities.	9. See General Comments Nos. 1 and 1A.
10. Section 5.0, paragraph 4, second bullet. The criteria for changing or discontinuing pumping rates needs to be specified. At present, the only acceptable criteria is that the well does not recover during the testing period to the level of the well intake or that the recovery is so slow that there is concern that the pump may be damaged. For those wells with extremely low recoveries (that is less than 6 inches per day), the WDIG is expected to collect daily liquid level measurements from the well to provide empirical data on the recovery rate. In no instance should the WDIG remove a pump or cease pumping at a location until the recovery data are presented to and discussed with EPA. Because it is expected that the recovery wells will be pumped dry shortly after the pumps are turned on and that the pumps will then be automatically cycled when liquids recover to a certain level (e.g., float switches), the cycling of the pumps will be based on individual well recovery rates and these rates must be understood before recommendations for cessation of pumping can be made to USEPA. Please specify what liquid level points will trigger the pump to shut off and turn on. EPA is concerned that as recovery levels diminish, additional methods may be required to recover the last several feet of liquids remaining in any wells that cannot be extracted by the proposed pumping system.	<p>10. Refer to Figure 6 in TM No. 13 for the criteria for changing or discontinuing pumping of an extraction well.</p> <p>10A. WDIG will monitor the extraction wells regularly to provide empirical data on the recovery rates. These wells will initially be monitored daily; however, the frequency of monitoring will be adjusted based on the rates of recovery. Refer to General Comments No. 3.</p> <p>10B. The trigger points for the pump to shut off and turn on will be as follows:</p> <ul style="list-style-type: none"> <li>• <u>Shutoff</u>: Approximately 18 to 24 inches (i.e., location of pump inlet) above the bottom of the extraction well.</li> <li>• <u>Turn-on</u>: Approximately half the initial water column. This may be adjusted based on field observations.</li> </ul> <p>10C. The extraction wells will be installed with a 1 foot sump at the bottom of the well. Therefore, the removal of the liquids beyond this point will be impractical.</p> <p>10D. Section 5.0, "Pilot Plant Operational Maintenance Procedures" of the TM will be revised to reflect EPAs Specific Comment No. 10.</p>

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EPA CONCERN/COMMENT	RESPONSE TO COMMENT
<b>Specific Comments (Continued):</b>	
11. Section 5.0, Paragraph 4, third bullet. The criteria for acceptance/non-acceptance of the liquid wastes needs to be included in TM No. 13 as discussed in General Comments.	11. See General Comments Nos. 1 and 1A.
12. Section 6.0, Paragraph 1. The purpose of this study is do more than just observe liquid extraction conditions and determine the cost-effectiveness of liquids removal. The study will provide quantitative data on liquids removal/recovery rates reservoir-wide. The locations picked by the WDIG will complete the overall reservoir liquids chemical characterization initiated by WDIG and EPA contractors. This study should be treated as a quantitative evaluation, not just a qualitative evaluation.	12. Quantitative evaluation of the reservoir liquids removal will be recorded using pulse counters attached to the extraction wells.
13. Section 6.0, Paragraph 1, bullet items on parameters. Please specify how the overall liquids level in the reservoir will be monitored. During prior investigations it was shown that when a well was pumped until dry, the adjacent monitoring points would show some drawdown, but all wells recovered to the original levels once pumps were turned off. A program to periodically shut off extraction wells to monitor recovery rates and liquids levels will be implemented as discussed above in General Comments.	13. During the January 22, 1999 Liquids Subcommittee meeting, EPA and WDIG agreed to install extraction wells only and that the purpose of TM No. 13 was not to "chase" liquids in the reservoir. The quantitative evaluation of the Treatability Study will be based on the productivity of the extraction wells.
14. Section 9.0, Paragraph 1. If data on liquids levels are collected, they should be included in the monthly report. The monthly report should also include any recommendations for changes in the pumping program.	14. The monthly report will include liquid levels and recommendations for any changes to the study.

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<b>Specific Comments (Continued):</b>	
15. Table 1. Chlorinated pesticides were not a chemical of concern for the reservoir. WDIG should consider running only the PCB component of the PCB/pesticide analysis.	15. WDIG will perform only the PCB component of the PCB/pesticide analysis.

ADDITIONAL VERBAL COMMENTS FROM EPA	RESPONSE TO COMMENT
1. Submission of an addendum describing Quality Assurance Project Plan (QAPP) procedures to TM No. 13.	1. A brief addendum describing the appropriate sampling methodology and QA/QC requirements will be prepared and submitted as an attachment to TM No. 13.
2. Determine the appropriateness of the existing "PB" wells (i.e., depth, construction and condition).	2. Prior to installing the extraction pump in the "PB" wells, the well will be inspected for: <ul style="list-style-type: none"> <li>• Presence of Liquids.</li> <li>• Presence of silt.</li> <li>• Ability to install a pump.</li> <li>• Well scaling.</li> </ul> If the above conditions inhibit the ability to extract liquids from the "PB" wells, a new well will be installed.
3. WDIG should consider the use of No. 3 grade sand versus pea gravel.	3. WDIG will continue to use pea gravel for the following reasons: <ul style="list-style-type: none"> <li>• Pea gravel has been used successfully in other reservoir well locations.</li> <li>• No. 3 grade sand may become impacted by the drilling muds, reducing the effectiveness of the wells.</li> <li>• ERT testing in the reservoir demonstrated that the gravel pack was effective.</li> </ul>

94-256 (3/26/99/ks)

**TRC**

**TECHNICAL MEMORANDUM NO. 13 (REVISION 1.0)**  
**WASTE DISPOSAL, INC. SUPERFUND SITE**

**SUBJECT:** Technical Memorandum No. 13 - Pilot-Scale Treatability Study for Reservoir Liquids Removal      **DATE:** March 25, 1999

**SUBMITTED TO:** Mark Filippini, U.S. EPA      **PROJECT NO.:** 94-256

**SUBMITTED BY:** Ian Webster, WDIG Project Coordinator

**cc:**      Andria Benner, EPA      Mike Skinner, WDIG  
         Bill Coakley, EPA ERT      John Wondolleck, CDM Federal  
         Tim Crist, CIWMB      Shelby Moore, Esq., WDIG  
         Mike Finch, DTSC      Shawn Haddad, DTSC  
         Ed McGovern, WESTON      Dave Becker, Army Corp of Engineers  
         Roberto Puga, Project Navigator, Ltd.      Boone & Associates, for WDIG Members

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**1.0 PROJECT DESCRIPTION AND SITE BACKGROUND**

1. This Technical Memorandum (TM) No. 13 Pilot-Scale Treatability Study for Reservoir Liquids Removal, describes the liquids extraction, treatment, disposal and analytical procedures proposed to conduct a pilot-scale treatability study for reservoir liquids removal at the Waste Disposal, Inc. (WDI) Superfund Site. The purpose of this study is to qualify the effectiveness of liquids removal (i.e., is pumping a cost-effective means of removing liquids from the reservoir). Additionally, liquids data will be collected to supplement the TM Nos. 6, 8 and 12 activities and findings.
2. The WDI site was originally used for the storage of crude oil produced in the Santa Fe Springs area in the early to late 1920s. A concrete-lined reservoir was constructed to contain approximately one million barrels of oil (42 million gallons). The reservoir was decommissioned for oil storage in the late 1920s. The reservoir was filled with oil field production wastes in the 1950s and later covered with soil fill and graded to its present condition. Recent reservoir investigations have shown the reservoir to contain concrete and other miscellaneous debris. Solvents and PCBs have also been detected in the reservoir in isolated areas. For an extensive explanation of the site history, refer to EBASCO's Remedial Investigation (RI) Report dated November 1989 and TRC's (Environmental Solutions, Inc.) Predesigned/Intermediate (60%) Design Report dated June 1996.
3. In 1998 the Waste Disposal, Inc. Group (WDIG) conducted several reservoir liquids investigations which included pump tests and trenching. The scope of work performed during these investigations is outlined in the following TMs and workplans:
  - TM No. 6 - Reservoir Liquids Recovery Testing, November 25, 1997.
  - Addendum - TM No. 6 - Additional Extraction Wells and Pump Tests, July 10, 1998.
  - TM No. 8 - Additional Reservoir Liquids Extraction Well/Probe Sampling, January 19, 1998.
  - TM No. 12 - Additional Reservoir Liquids Recovery Testing and Piezometer Abandonment, September 18, 1998.
  - Revised Phase II Workplan - Reservoir Interior Test Trench Excavation, August 31, 1998.
  - EPA's Perched Liquids Characterization - Phase I Reservoir Integrity and Exterior Area Test Pit Excavation, August 21, 1998.
4. The purpose of TM Nos. 6 and 8 activities was to assist in determining the hydraulic yield potential and chemical characteristics of the liquid material (free and aqueous phase) contained within the buried reservoir at the WDI site. The specific objectives for each of these activities were as follows:
  - Estimate the hydraulic yield of the saturated portion of the reservoir and extraction well radius of influence.
  - Delineate chemical and physical characteristics of both free and aqueous phases of encountered reservoir liquids.
  - Characterize chemistry of soil gas from evacuated portion of saturated reservoir material, if possible.

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5. Liquids recovery tests were also performed as outlined in TM No. 12. These tests consisted of purging 62 1-inch-diameter piezometers installed by EPA and monitoring the recovery rates of the liquids. The primary objectives of TM No. 12 recovery testing were as follows:
    - Characterize the recharge rates of the reservoir liquids.
    - Determine the presence and recovery rates of free product.
    - Determine if reservoir liquid levels return to static/background levels.
  6. The purpose of the Phase II trenching activities was to assist in determining the location of liquids (free and aqueous phase) within the buried reservoir. The objectives of these activities, shown below, were similar to TM Nos. 6, 8, and 12:
    - Observe liquid conditions in the fill and waste material.
    - Measure release rates of the liquids encountered in the test trench.
    - Measure change in liquid levels and quantities over time.
    - Observe physical behavior of waste material.
    - Measure the production values for trench waste.
  7. Observations and analytical data collected during the investigative activities showed the following characteristics of the materials encountered within the reservoir:
    - Reservoir liquids consist of infiltrated rainwater and crude oil.
    - Fill material consists of an extremely heterogeneous silty sand to sandy silt layer intermixed with wood and concrete debris.
    - Waste material consists of black stained clays (drilling muds) with zones of liquids and product.
    - Hydraulic characteristics of liquids within the reservoir boundary are extremely heterogeneous.
    - Chemical characteristics of liquids do not indicate the liquids are a hazardous material.
    - Liquids within the sump and fill material are contained within higher permeability zones.
  8. Refer to the following TM Nos. 6, 8 and 12 and Phase II Report of Findings (ROF) for a complete description of the data collected during field activities:
    - Technical Memoranda Nos. 6, 8 and 12 - Reservoir Liquids Testing, Report of Findings, October 30, 1998.
    - Phase II - Reservoir Interior Test Trench Excavation, Report of Findings, October 16, 1998.

## **2.0 REMEDIAL TECHNOLOGY DESCRIPTION**

1. The technology needed to perform the pilot-scale treatability study is briefly described in the following section. A detailed description of the design, layout and equipment specifications for the system is provided in Section 4.0.
2. The following technology will be used to conduct the reservoir liquids removal treatability study:
  - Eighteen extraction wells equipped with pneumatic pumps:
    - 8 existing wells.
    - 10 proposed new wells.
  - The extraction wells will be connected to three 1-inch-diameter laterals. These laterals are connected to a 2-inch-diameter central line, which conveys the liquids to the treatment unit.
  - Liquids treatment and storage units consisting of:
    - Oil/water separator unit.
    - Carbon unit for treated water polishing.
    - Storage containers for treated water and recovered oil.
  - The treatment unit will be equipped with the following safety systems:
    - Air compressor low pressure shut-off.
    - High level storage container AutoDialer to monitor liquid levels.
    - High high level storage container, system shut-off to prevent overfilling.

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### 3.0 TEST OBJECTIVES

1. The purpose of this study is to further investigate the ability to extract liquids from the reservoir. As noted above, previous investigations have been performed to collect information on the characteristics of the liquids and materials within the reservoir boundary at discrete locations. These investigations were conducted at three localized pumping areas, including several small-sized trenches. In addition, the tests were performed for a short duration (i.e., 1 to 4 week pumping periods). Under larger scale conditions, (i.e., increase in the number of pumping wells, increase in reservoir coverage and extended periods for pumping), this treatability study will allow for a better evaluation of the reservoir hydraulics with which to define the overall feasibility of reservoir liquids extraction and perhaps achieve a substantial removal of reservoir free liquids.
2. The rationale for implementing a treatability study for reservoir liquids extraction is the following:
  - Determine the feasibility of reservoir liquids extraction on a large scale based on the in-situ characteristics of the materials within the reservoir boundary.
  - Determine if extracting reservoir liquids is cost-effective.
  - Reduce free liquids in the reservoir.
  - Collect additional data to supplement TM Nos. 6, 8 and 12 activities and findings.

### 4.0 PILOT PLANT INSTALLATION AND START-UP

1. The locations for the ten proposed extraction wells were selected based on TM Nos. 6, 8 and 12 and trenching findings. The eight existing wells were installed as part of previous reservoir investigations. The locations of all the wells were verbally approved by EPA during the reservoir liquids subcommittee meeting on January 22, 1999 in Berkeley, California. Figure 1 shows the locations of the 18 extraction wells.
2. Prior to installing the extraction pump in the "PB" wells, the wells will be inspected for the following conditions:
  - Presence of liquids.
  - Presence of silt.
  - Ability to install pump.
  - Well scaling.

If the above conditions inhibit the ability to extract liquids from the "PB" wells, a new well will be installed.

3. The ten proposed wells will be constructed as shown in Figure 2. The construction of these wells is similar to the construction of TM Nos. 6 and 8 extraction wells (EX-1 and -2) with the exception that these wells will be constructed using 4-inch-diameter PVC casing. The location and identification of the existing wells are shown on Figure 1. Well construction details of the existing eight wells, are provided in the following reports:

- TM No. 6 - Reservoir Liquids Recovery Test.
- TM No. 8 - Additional Reservoir Liquids Extraction Well/Probe Sampling.
- Revised Phase II Workplan - Reservoir Interim Test Trench Excavations.

Wells installed by EPA (i.e., "PB" wells) will also be incorporated into the system.

4. The liquids will be extracted from the wells using pneumatic pumps attached to an air compressor capable of providing approximately 10 standard cubic feet per minute (scfm) of free air at 100 pounds per square inch (psig) of pressure to each well. The volume of liquids extracted from each well will be measured via an in-line meter (i.e., totalizer or pump cycle counter).
5. The purged liquids will be transferred via 1-inch diameter PVC piping from the wells to a main line which leads to the liquids treatment and storage unit bermed area. The liquids will initially be sent through an oil/water separator for disposal purposes. The water phase will be transferred to a sump and eventually pumped through a carbon absorption drum for the removal of trace organic constituents. Once the water has been treated, it will be stored in a Baker tank(s). Prior to disposing the water, samples will be collected and analyzed for the constituents listed in Table 1 to confirm analytical results meet the acceptance criteria of the disposal facility. The recovered oil will be transferred to either a 55-gallon drum or a Baker Tank. Prior to disposing the recovered oil, samples will be collected and analyzed for the constituents listed on Table 1 to also confirm analytical results meet the acceptance criteria of the disposal facility. A schematic of the reservoir liquids removal system and layout is shown in Figures 3 and 4. Refer to Attachment A for the acceptance criteria of the disposal facilities.

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6. The system will be equipped with a safety shut-off device and an AutoDialer to notify the appropriate personnel for immediate inspection of the system. Figure 3 shows the locations of these safety switches.
7. The materials and equipment for the system will be ordered and delivered to the site by local vendors. Installation and operation of the system will be performed by WDIG contractors. Refer to Table 2 for the materials and equipment specifications. Alternative equipment may be used pending availability and cost but will be approved by TRC's system design engineer to confirm equivalent specifications. Attachment B contains the specifications for the materials listed in Table 2.
8. Prior to start-up, a shake-down of the system will be performed and include the following list of precautionary activities:
  - Verify well pumps work properly by connecting each well pump to the compressed air source and immersing the pump in a bucket of clean water. This procedure will confirm the operation of the float that turns the pump on and off. This also confirms that the pump is operating at the rated capacity (i.e., 5 gallons of water removed in  $\leq 5$  minutes).
  - Obtain samples from the extraction wells (i.e., sample ports and/or disposable bailers) for analysis.
  - Visually inspect PVC connections for leaks by filling the lines with clean water prior to start-up of the pumps.
  - Visually inspect oil/water separator for leaks by filling with clean water and manually activating the high level switch to verify operation of the AutoDialer.
  - Visually inspect the transfer line of the recovered oil to the storage tank/drums for leaks by filling the lines with clean water.
  - Visually inspect collection sump for leaks by allowing it to fill with clean water. Confirm that the pump operates at a rate capable of maintaining similar flow rates from the oil/water separator by activating the pump with a known volume of water present in the sump and timing the pump out to confirm a rate of  $\geq 18$  gallons per minute (gpm). Manually activate the safety-switch to verify operation of the AutoDialer.
  - Visually inspect water line for leaks to the carbon canister and to storage tanks by filling the lines with clean water.
  - Inspect the instrumentation associated with the following controls:
    - Air Compressor Pressure Switch.
    - Effluent Storage Tank High Level Switch.
    - Effluent Storage Tank High Level Switch.
9. Once the system is online and inspected (i.e., meets the system designers satisfaction), the air compressor will be started and the system pressurized. The system will be monitored continuously for the first 12 hours of operation, or longer if necessary. Monitoring will then be reduced to every 4 hours for the next 48 hours (daylight hours only). At the completion of the initial 72 hours of monitoring, the monitoring frequency will be changed to once a day for a week, then to once a week for the first month and eventually to twice a month for the remainder of the study. Additional monitoring may be performed if necessary. Inspections will include the same list of actions noted above.

## **5.0 PILOT PLANT OPERATIONAL MAINTENANCE PROCEDURES**

1. Once the system has been initiated, it should operate with minimal operator involvement. However, the system will be monitored on a regular basis, as discussed above, to check for leaks, collect flow and volume data, collect liquid levels and to assure adherence to Health and Safety requirements. The system will also be monitored for Baker tank volumes and well totalizer readings.
2. The AutoDialer will notify designated personnel when liquid sampling and/or liquid transfer or disposal is required. In the event these operations are not performed in a timely manner, the system will automatically shut down to prevent liquid overflow from the storage tanks.
3. Only minor maintenance is required for this system. The major operating unit requiring maintenance is the air compressor which must be checked and lubricated as per the manufacturer's recommendations.



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4. The system will continue to operate during the schedule shown in Figure 5. During operation of the system, certain criteria must be met to continue pumping from the wells. Figure 6 shows the "system shut-off" criteria decision tree. The "system shut-off" criteria consists of the following elements:

- Chemical characterization of well output to assure nonhazardous characteristics prior to treatment.
  - If the well produces hazardous liquids, pumping from the well will be discontinued. The following will delineate the hazardous waste criteria for liquids extracted from the reservoir:
    - Total PCBs: >50 parts per million (ppm) or in excess of disposal criteria.
    - Remaining parameters: Above State and Federal requirements.
- Evaluation of pumping.
  - The extraction wells will be monitored regularly as noted above. If pump rates cannot be sustained, pumping frequency will be decreased or discontinued.
  - The trigger points for the pump to shutoff and turn-on will be as follows:
    - Shutoff: Approximately 18 to 24 inches (i.e., location of pump inlet) above the bottom of the extraction well.
    - Turn-on: Approximately half the initial water column. This may be adjusted based on field conditions.
- Chemical characterization of treatment effluent to assure disposal as nonhazardous liquid.
  - If the treated effluent cannot be disposed of as nonhazardous, pumping will be discontinued. The following will delineate the hazardous waste criteria for liquids extracted from the reservoir:
    - Total PCBs: >50 ppm or in excess of disposal criteria.
    - Remaining parameters: Above State and Federal requirements.

5. A description of the resident procedures is provided in Section 10.0.

#### **6.0 PARAMETERS TO BE MEASURED**

1. The purpose of the treatability study is to observe reservoir liquids extraction conditions on a larger scale and to determine if pumping is cost-effective. The following parameters will be observed during the study to facilitate the evaluation of liquids extraction:
  - Individual well pump rates.
  - Total volume of liquids removed from each extraction well.
  - Total volume of liquids removed from the reservoir.
  - Sustainability of well yield over time.
  - The physical and chemical properties of the reservoir liquids.
2. The quantitative evaluation of the reservoir liquids removed will be recorded using pulse counters or totalizers attached to the extraction wells and system.

#### **7.0 SAMPLING PLAN AND ANALYTICAL METHODS**

1. During TM No. 13 activities, the following locations will be sampled and analyzed:
  - Extraction wells (prior to system start-up and as needed pending effluent results).
  - Treatment system during start-up.
  - Stored effluent and recovered oil (disposal purposes only).
2. Samples will be collected from sample ports located at each of the locations noted above. If discrete samples are required (i.e., oil and water) disposable PVC bailers will be used.

**TECHNICAL MEMORANDUM NO. 13 (REVISION 1.0)**  
**WASTE DISPOSAL, INC. SUPERFUND SITE**  
**(Continued)**

**SUBJECT:** TM No. 13 - Pilot-Scale Treatability Study  
for Reservoir Liquids Removal

**DATE:** March 25, 1999

3. Table 1 and Addendum 1 (see Attachment C) provide a summary of the sampling procedures, analysis plan and Quality Assurance/Quality Control (QA/QC) procedures for TM No. 13 activities. As shown in Table 1, the frequency of sampling will be kept to a minimum. The majority of the sampling will be for the treated effluent and recovered oil disposal requirements.

## **8.0 DATA MANAGEMENT**

1. As discussed in Section 5.0, the system will be monitored on a regular basis. The following information will be recorded during each site inspection:
  - Inspector's name.
  - Date of inspection.
  - Individual well totalizer readings and liquid levels.
  - Liquid volumes in storage containers.
  - Conditions of equipment.
  - Comments on visual inspection of the system.
2. Refer to Table 3 for an example field form to be filled out at the time of each TM No. 13 inspection.

## **9.0 DATA ANALYSIS AND INTERPRETATION**

1. Field and analytical data generated during the treatability study will be submitted to EPA in the form of a "TM No. 13 Monthly Progress Report." The monthly report will include the following information:
  - Volume of liquids extracted.
  - Analytical data of stored liquids (recovered oil and treated water).
  - Volume of liquids disposed, including disposal location.
  - Liquid levels in the extraction wells.
  - Recommendations for changes to the study.
2. A Closeout Report will be submitted to EPA at the completion of the TM No. 13 activities, or if the productivity of the wells appear to be insufficient. The Closeout Report will be followed by an As-Built Report. The As-Built Report will include an interpretation of the technology's effectiveness and implementability. In addition, the report will include specifications of the equipment used during the treatability study, detailed design of the system and any other information related to the study. Figure 5 shows a proposed schedule for TM No. 13 activities.

## **10.0 HEALTH AND SAFETY**

1. All activities at the site will be conducted according to WDIG's Site-Specific Health and Safety Plan<sup>(1)</sup>.
2. In addition to the Site Health and Safety Plan, the following procedures will be implemented:
  - During start-up, the treatment unit will be monitored for volatile organic compounds (VOCs) using hand-held field monitoring equipment. If total VOC levels exceed 10 ppm in the treatment unit and storage container area, activities will be conducted in Level C or discontinued.
  - Odor monitoring will be conducted during start-up to assure that fugitive emissions do not cause odor problems. If odors are detected, the treatment unit will be shut down and the odor problem evaluated.
  - During start-up, all activities will be conducted using at least two onsite personnel (i.e., Buddy System). After start-up, inspection, minor modifications and site checks can be performed without requiring the Buddy System.

<sup>(1)</sup> TRC, Health and Safety Plan, Waste Disposal, Inc. Superfund Site, August 22, 1997.

**TECHNICAL MEMORANDUM NO. 13 (REVISION 1.0)**  
**WASTE DISPOSAL, INC. SUPERFUND SITE**  
**(Continued)**

**SUBJECT:** TM No. 13 - Pilot-Scale Treatability Study  
for Reservoir Liquids Removal

**DATE:** March 25, 1999

**3. Emergency Procedures:**

<u>Problem</u>	<u>Response</u>
• Pipe Breaks/Leaks	<ul style="list-style-type: none"><li>• Shut down well and pump.</li><li>• Contain spills/liquids.</li><li>• Notify Project Manager (PM) and EPA RPM.</li><li>• Collect liquids/residuals.</li></ul>
• Tank or Treatment Unit Overflow	<ul style="list-style-type: none"><li>• Shut down system.</li><li>• Contain spills/liquids.</li><li>• Notify PM and EPA RPM.</li><li>• Contact Santa Fe Springs Fire Department (SFSFD), if necessary.</li><li>• Implement community contingency plan.</li></ul>
• Fire	<ul style="list-style-type: none"><li>• Contact SFSFD.</li><li>• Notify PM and EPA RPM.</li><li>• Implement community contingency plan.</li></ul>

**11.0 RESIDUALS MANAGEMENT**

**1. To manage the treated aqueous effluent, the following procedures will be implemented:**

- When the treated water effluent tank (approximately 20,000 gallons) is close to full capacity, the effluent flow will be transferred to a 6,000-gallon storage container.
- The 20,000-gallon effluent tank will be sampled as discussed in Section 7.0.
  - Laboratory analyses will be completed within 72 hours. Based on the disposal criteria for the facilities shown in Table 4, the final disposition of the liquids will be determined.
- The designated licensed transporter (i.e., Consolidated Waste Industries) will be contacted and the aqueous phase liquids from the 20,000-gallon tank will be transported and disposed to a designated disposal facility (see Table 4).
- The liquids in the 6,000-gallon backup tank will be transferred into the 20,000-gallon storage tank and the effluent flow from the treatment unit will be transferred back into the 20,000-gallon storage tank.

**2. To manage the recovered oil, the following procedure will be implemented:**

- When the recovered oil storage container is near capacity, the effluent will be transferred to a backup storage container.
- The recovered oil storage container will be sampled as described in Section 7.0.
- Laboratory analysis will be completed within 72 hours. Based on the disposal criteria for the facilities shown in Table 4, the final disposition of the liquids will be determined.
- The designated licensed transporter will be contacted and the liquids removed for disposal to a designated disposal facility (see Table 4).
- If disposal problems (i.e., PCB detections, availability of transporter) occur, the following actions may be implemented:
  - Well pumping may be shut down until disposal issues are resolved.
  - Well pumping may be reduced until disposal issues are resolved.
  - Additional storage containers may be obtained to increase storage capacity temporarily.

**TECHNICAL MEMORANDUM NO. 13 (REVISION 1.0)**  
**WASTE DISPOSAL, INC. SUPERFUND SITE**  
**(Continued)**

**SUBJECT:** TM No. 13 - Pilot-Scale Treatability Study  
for Reservoir Liquids Removal

**DATE:** March 25, 1999

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**LISTS OF ATTACHMENTS:**

Attachment A: Disposal Facility Acceptance Criteria

Attachment B: Specifications of Equipment and Materials

Attachment C: Addendum 1 - Field Sampling Analysis Plan and Quality Assurance Project Plan for TM No. 13 activities

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**RPM APPROVAL STATUS:**

**BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

☐ Approved    ☐ Disapproved    ☐ Additional Information Required

TABLE 1

**SAMPLING AND ANALYSIS PLAN  
WASTE DISPOSAL, INC. SUPERFUND SITE**

SAMPLING LOCATION	FREQUENCY	ANALYSES			
		Aqueous Phase		Oily Phase	
		EPA Method	Parameters	EPA Method	Parameters
Extraction Wells	<ul style="list-style-type: none"> <li>One sample from the aqueous and/or oily phases<sup>(1)</sup> prior to pumping</li> <li>One sample per week from the aqueous and/or oily phases<sup>(1)</sup> or the first month of liquids extraction</li> <li>One sample per month from the aqueous and/or oily phases<sup>(1)</sup> after the first month of liquids extraction</li> <li>As needed to resolve disposal issues</li> </ul>	8260 418.1 8080 9045 7000	VOCs Oil & Grease PCBs pH Priority Metals	8260 8080 7000	VOCs PCBs Priority Metals
Oil/Water Separator	<ul style="list-style-type: none"> <li>Sample at startup only</li> <li>As needed to resolve disposal issues</li> </ul>	418.1 8080	Oil/Grease PCBs	8080	PCBs
Effluent Storage Tanks:					
• Aqueous Phase	<ul style="list-style-type: none"> <li>One composite sample per week for the first month of liquids extraction</li> <li>One composite sample per month after the first month of liquids extraction</li> <li>As necessary for disposal</li> </ul>	418.1 8260 8080 9045 7000	Oil/Grease VOC's PCBs pH Priority Metals	NA	NA
• Oily Phase	<ul style="list-style-type: none"> <li>One composite sample per week for the first month of liquids extraction</li> <li>One composite sample per month after the first month of liquids extraction</li> <li>As necessary for disposal</li> </ul>	NA	NA	8260 8270 8080 7000	VOCs SVOCs PCBs Priority Metals

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NA = Not Applicable

(1) Oily phase sample will be collected if encountered in the extraction well and a sufficient volume can be collected, the order of analysis will be as follows: (1) PCBs; (2) VOCs; and (3) Priority Metals.

(2) Refer to Addendum 1 (Attachment C) for a complete description of Field Sampling Analysis Plan and Quality Assurance Project Plan.

**TABLE 2**  
**MATERIALS AND EQUIPMENT SPECIFICATIONS SUMMARY**  
**WASTE DISPOSAL, INC. SUPERFUND SITE**

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION <sup>(1)</sup>
<b>Extraction System</b>	
Air Compressor	Two-Stage Compressor (Model No. 4364K44) <sup>(2)</sup>
Pressure Switch	PS-E Series (25 to 100 psi)
<b>Extraction Wells<sup>(3)</sup></b>	
Casing	4" Diameter, Schedule 40, PVC - Threaded
Screen	0.02", Schedule 40, PVC - Threaded
Filter Pack	1/4" Diameter Gravel
Seal	Bentonite Pellets (1/4") and Bentonite Grout
<b>Pumping Equipment</b>	
Pneumatic Pump	Hammerhead (Model No. H23SEB) or equal
<b>Monitoring Equipment</b>	
Pump Cycle Counter	QED Pump Cycle Counter (Model No. 37000) or equal
<b>Air &amp; Liquid Hoses/Piping</b>	
Air Hose	1/4" (I.D.) x 1/2" (O.D.) (Working Pressure: 200 psi)
Piping	1" and 2" Diameter, PVC, Schedule 40, Glued Joints
<b>Liquids Handling Components</b>	
Oil/Water Separator	QED DP-8A (1 to 30 gpm) or equal
Sump	Christy U32 Catch Basin (2' x 3' with 6" walls) or equal
Sump Pump	Automatic Cast Iron Pump (1/4 HP Model)
Carbon Absorption Drum	55-gallon Steel or Plastic Drum (200- to 350-pound capacity)
Storage Tanks/Drums	55-gallon drum (steel), 3,000-gallon (Poly), 6,500-gallon (Poly) and 20,000-gallon (Steel)
Level Switches	LS-800 Series or equal
AutoDialer	Sensaphone 1108 or equal

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- (1) Alternative equipment may be used pending availability and cost, but will be approved by the system designer to confirm equivalent specifications.  
(2) Size and make to be determined based on final design.  
(3) Specifications for 10 new extraction wells only.

**TABLE 3**

**EXAMPLE FIELD FORM**

**WASTE DISPOSAL, INC. SUPERFUND SITE**

INSPECTOR: _____	CHECKED BY: _____
DATE/TIME INSPECTED: _____	DATE: _____

EXTRACTION WELL METER READING (gallons)/Liquid Level (ft bgs):

RW -1: _____	EX-1: <u>LS#3 7-25'</u> <u>not specified</u>
RW -2: _____	EX-2: _____
RW -3: _____	EX-4: <u>pea gravel 10-20 ft</u>
RW -4: _____	
RW -5: _____	TTII-1: <u>10-15' pea gravel</u>
RW -6: _____	TTII-2: <u>6.5-11.5' pea gravel</u>
RW -7: _____	PB-2: _____
RW -8: _____	PB-4: _____
RW -9: _____	PB-6: _____
RW -10: _____	PB-8: _____

*PL II Test finished*

*P-2 LS#3 pea gravel*

<u>LIQUID VOLUMES IN STORAGE CONTAINERS (gallons):</u>	<u>EQUIPMENT CONDITION:</u>
--------------------------------------------------------	-----------------------------

BT-1 (treated water): _____	Well Heads _____
BT-2 (treated water): _____	Piping _____
BT-3 (recovered oil): _____	Tanks _____
	Treatment Unit _____

Comments

COMMENTS/ADDITIONAL NOTES:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**TABLE 4**

**PRELIMINARY DISPOSAL FACILITY IDENTIFICATION  
WASTE DISPOSAL, INC. SUPERFUND SITE**

RESIDUAL	WASTE DISPOSAL <sup>(1)</sup>	PCB DISPOSAL CRITERIA
Nonhazardous Liquids	Crosby and Overton Long Beach, California EPA ID No. CAD 028 409 019	<10 ppb
Nonhazardous Oils/Emulsions	Waste Management, Inc. Azusa, California EPA ID No. CAD 008 302 903	<50 ppm
	Safety-Kleen Recycling Westmorland, California EPA ID No. CAD 000 633 164	<6 ppm
Hazardous Oils/Liquids	U.S. Ecology, Inc. Beatty, Nevada EPA ID No. NVT 3300100000	None <sup>(2)</sup>
	Salesco Systems Phoenix, Arizona EPA ID No. AZD 983473539	None <sup>(2)</sup>

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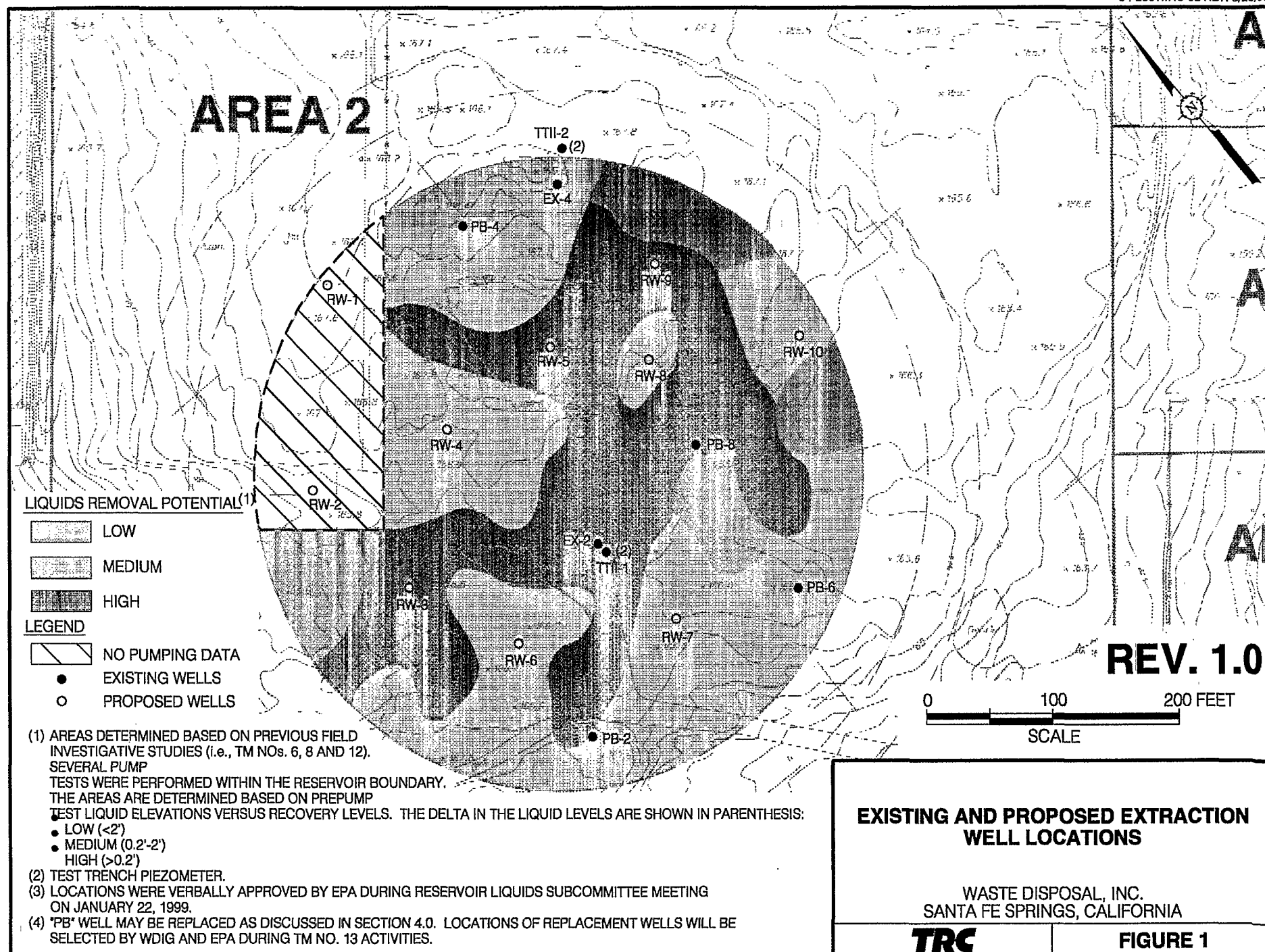
ppb = parts per billion

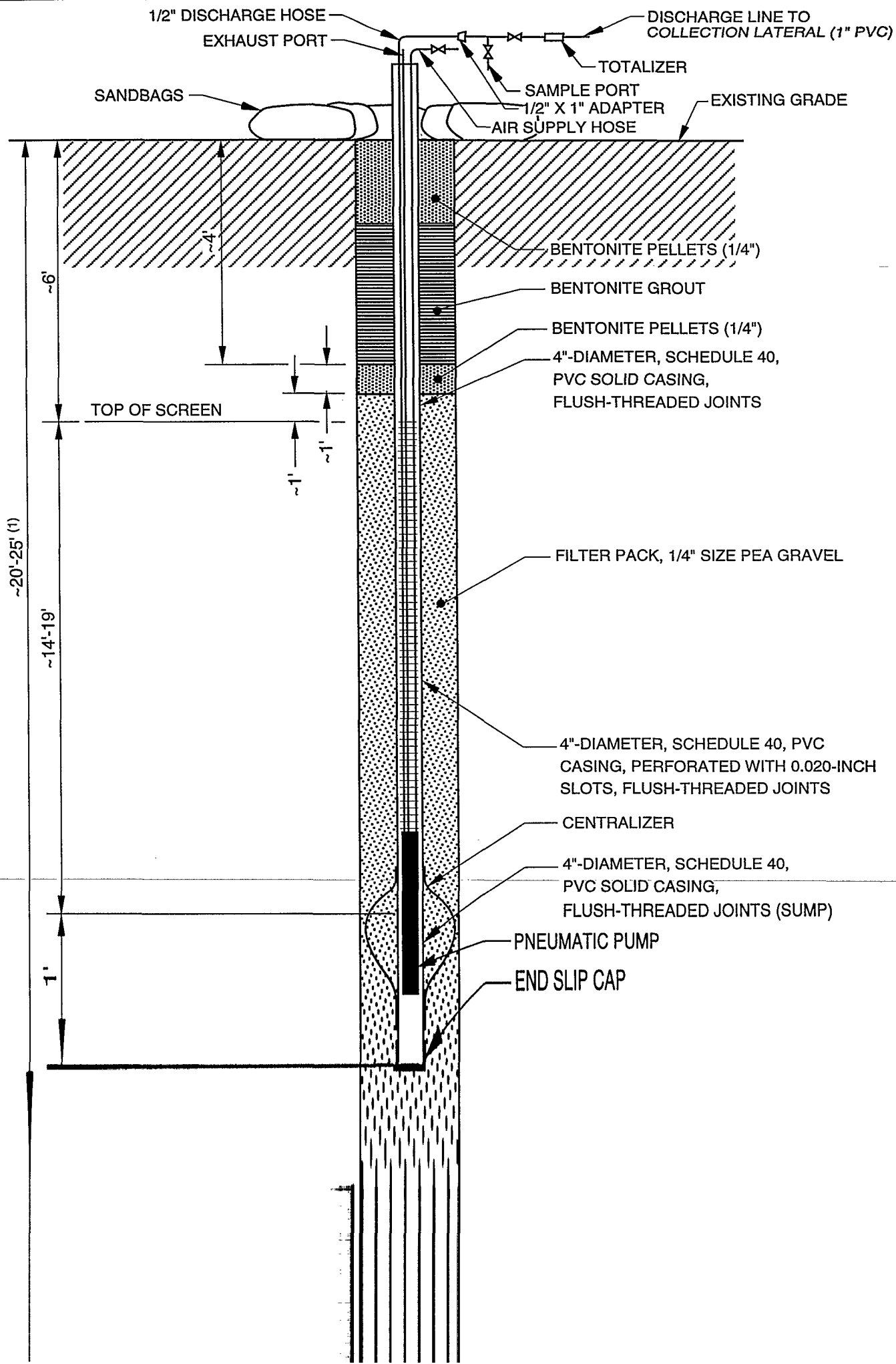
ppm = parts per million

(1) Final disposal facility selection will be completed based on availability and the waste characteristics. EPA will be informed of any changes to the above list prior to disposal activities.

(2) Disposal Facility will accept any PCB concentrations.



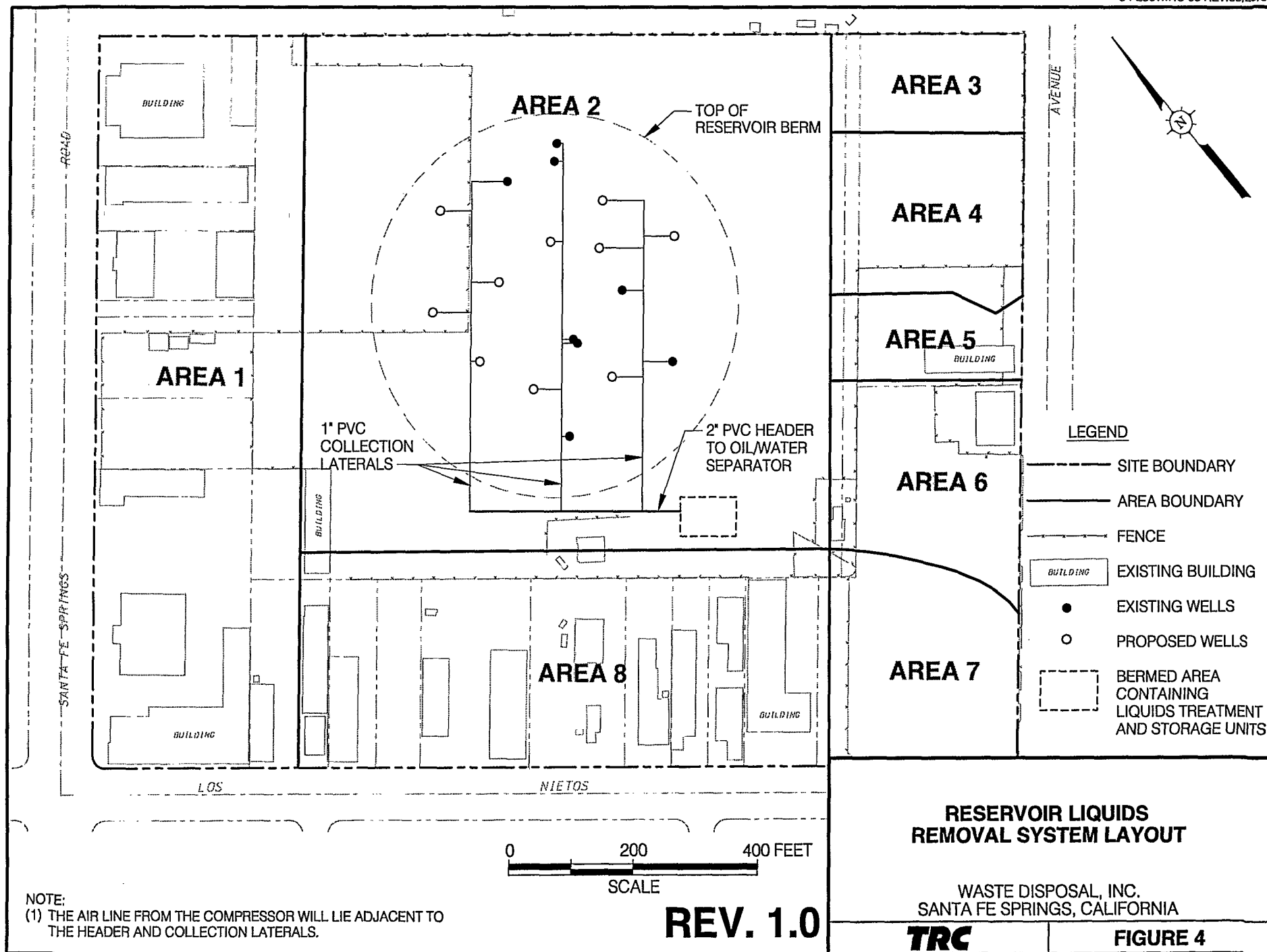




**REV. 1.0**

# SCHEMATIC OF RESERVOIR LIQUIDS REMOVAL SYSTEM

- WASTE DISPOSAL, INC.  
SANTA FE SPRINGS, CALIFORNIA
- 
- TRC** **FIGURE**



[illegible]

 To Be Determined

(1) Schedule will be determined by length of system operation. The length of operating the system will be based on the sustainability of pumping and the chemical composition of the liquids being extracted from the reservoir.

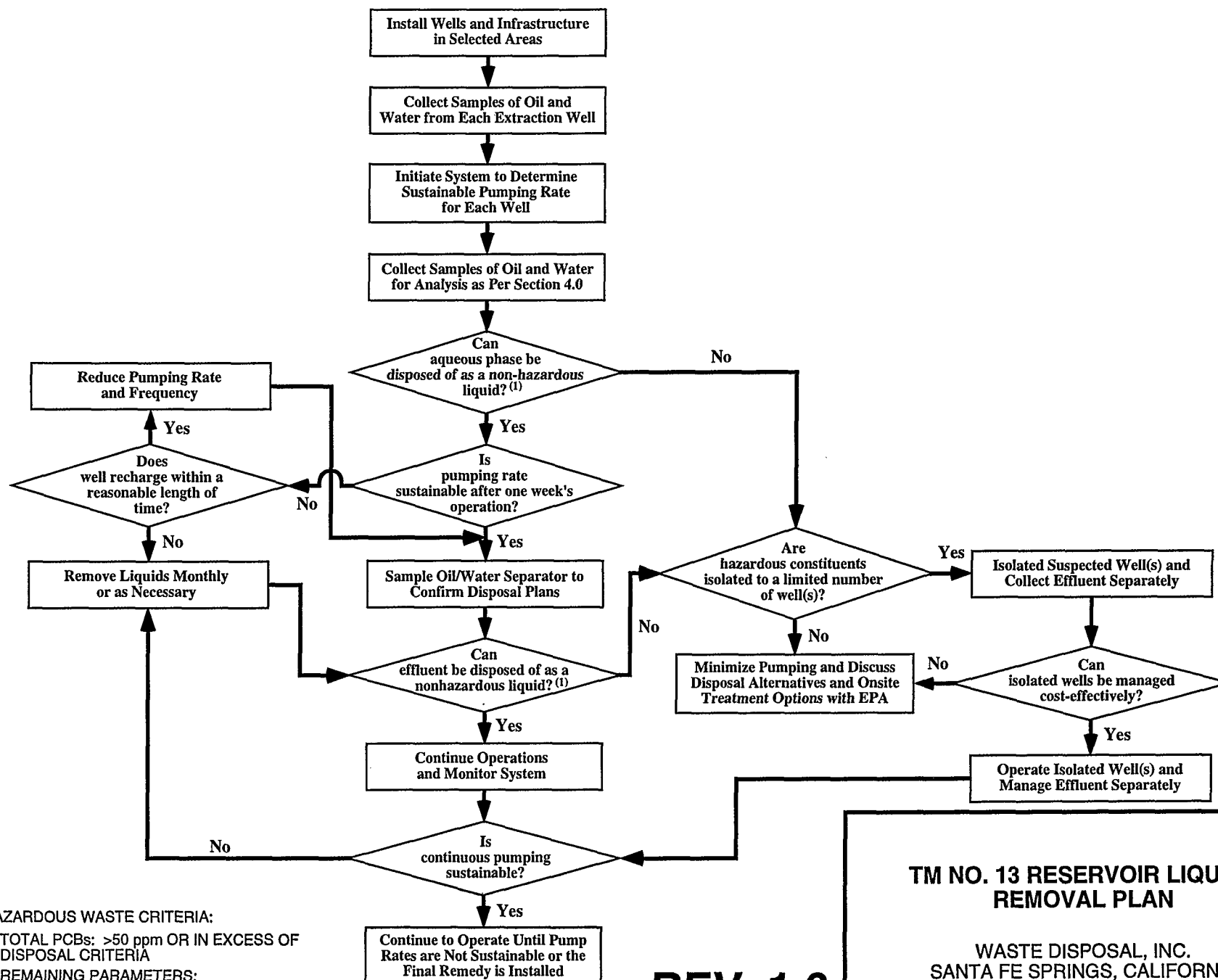
## TM NO. 13 PROPOSED SCHEDULE

WASTE DISPOSAL, INC.  
SANTA FE SPRINGS, CALIFORNIA

**REV. 1.0**

**TRC**

### FIGURE 5



(1) HAZARDOUS WASTE CRITERIA:

- TOTAL PCBs: >50 ppm OR IN EXCESS OF DISPOSAL CRITERIA
- REMAINING PARAMETERS: ABOVE STATE AND FEDERAL REQUIREMENTS

REV. 1.0

# TM NO. 13 RESERVOIR LIQUIDS REMOVAL PLAN

WASTE DISPOSAL, INC.  
SANTA FE SPRINGS, CALIFORNIA

**TRC**

FIGURE 6

ATTACHMENT A

# Crosby & Overton

Environmental Services

March 23, 1999

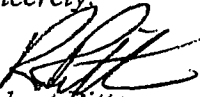
Mr. Glenn Androsko  
TRC  
21 Technology Drive  
Irvine, CA 92618

Dear Glenn:

*As requested Crosby and Overton's limitation on PCB's for Bulk liquid is 10 ppb (parts per billion). Because of this extremely low limit; the facility will not allow ANY PCB's liquids as bulk (tanker) for Waste Water Treatment. Should you have any questions or concerns please free to contact me or Larry Boyle (Compliance Manager) at Crosby and Overton.*

*Crosby and Overton, Inc. appreciates the opportunity to work with you and your company. We look forward to earning your business in the future.*

Sincerely,

  
Robert Kitter  
Sales Dept.



# Crosby & Overton, Inc.

1610 W. 17th Street  
Long Beach, CA 90813  
(562) 432-5445  
Fax: (562) 495-2181

## FAX TRANSMISSION COVER SHEET

Date: 3-9-99  
To: Eric U Company: OWI  
Fax: \_\_\_\_\_  
Re: (909) 482-2272  
Sender: Christine Tibbetts, Customer Service Representative

YOU SHOULD RECEIVE PAGE(S), INCLUDING THIS COVER SHEET. IF  
YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL (562) 432-5445.

Here it is!

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law (*Section 3010 of the Resource Conservation and Recovery Act*).



## Comments

[illegible]

Installation's EPA ID Number													Approved		Date Received (yr. mo. day)							
C													T/A	C								
F														1								

C	R	O	S	B	Y		&		O	V	E	R	T	O	N	-	P	L	A	N	T	:	#	1
---	---	---	---	---	---	--	---	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

## Street or P.O. Box

[illegible]

City or Town													State		ZIP Code						
C																					
A	L	O	N	G		B	E	A	C	H					C	A	9	0	8	1	3

## Street or Route Number

[illegible]

City or Town																	State		ZIP Code					
C	L	O	N	G			B	E	A	C	H							C	A	9	0	8	1	3

## Name and Title (last, first, and job title)

2	M	A	T	T	H	E	W	S		J	O	H	N		-		E	N	G	2	1	3	4	3	2	5	4	4	5
---	---	---	---	---	---	---	---	---	--	---	---	---	---	--	---	--	---	---	---	---	---	---	---	---	---	---	---	---	---

**A. Name of Installation's Legal Owner**

C	R	O	S	B	Y		&		O	V	E	R	T	O	N		I	N	C.	P	
---	---	---	---	---	---	--	---	--	---	---	---	---	---	---	---	--	---	---	----	---	--

### A. Hazardous Waste Activity

☒ 1a. Generator ☐ 1b. Less than 1,000 kg/mo.

☒ 2. Transporter

☒ 3. Treater/Storer/Disposer

☐ 4. Underground Injection

☐ 5. Market or Burn Hazardous Waste Fuel  
(enter "X" and mark appropriate boxes below)

☐ a. Generator Marketing to Burner

☐ b. Other Marketer

☐ c. Burner

### B. Used Oil Fuel Activities

☐ 6. Off-Specification Used Oil Fuel  
(enter "X" and mark appropriate boxes below)

☐ a. Generator Marketing to Burner

☐ b. Other Marketer

☐ c. Burner

☐ 7. Specification Used Oil Fuel Marketer (or On site Burner)  
Who First Claims the Oil Meets the Specification

**VII. Waste Fuel Burning: Type of Combustion Device** (enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)

☐ A. Utility Boiler      ☐ B. Industrial Boiler      ☐ C. Industrial Furnace

☐ A. Air    ☐ B. Rail    ☒ C. Highway    ☐ D. Water    ☐ E. Other (specify)

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

☐ A. First Notification      ☒ B. Subsequent Notification (complete item C)

X. Description of Hazardous Wastes (continued from front)

1				2				3				4				5				6			
F	0	0	1	F	0	0	2	F	0	0	3	F	0	0	4	F	0	0	5	F	0	0	6
7				8				9				10				11				12			
F	0	0	7	F	0	0	8	F	0	0	9	F	0	1	0	F	0	1	1	F	0	1	2

13				14				15				16				17				18			
K	0	0	1	K	0	0	2	K	0	0	3	K	0	0	4	K	0	0	5	K	0	0	6
19				20				21				22				23				24			
K	0	0	7	K	0	0	8	K	0	0	9	K	0	1	0	K	0	1	1	K	0	1	3
25				26				27				28				29				30			
K	0	1	4	K	0	1	5	K	0	1	6	K	0	1	7	K	0	1	8	K	0	1	9

31				32				33				34				35				36			
U	0	0	1	U	0	0	2	U	0	0	3	U	0	0	4	U	0	0	8	U	0	2	0
37				38				39				40				41				42			
U	0	2	4	U	0	2	5	U	0	2	6	U	0	2	7	U	0	2	8				
43				44				45				46				47				48			
U	0	3	0	U	0	3	1	U	0	3	2	U	0	3	4	U	0	3	6	U	0	3	7

[illegible]

**4. Toxic**  
**(DOOO)**

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

Date Signed \_\_\_\_\_



EPA Form 8700-12 (Rev. 11-85) Reverse

C

W

T/A

**X. Description of Hazardous Wastes (continued from front)****A. Hazardous Wastes from Nonspecific Sources.** Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

**B. Hazardous Wastes from Specific Sources.** Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13 K 0 8 3	14 K 0 8 4	15 K 0 8 5	16 K 0 8 6	17 K 0 9 3	18 K 0 9 4
19 K 0 9 5	20 K 0 9 6	21 K 0 9 7	22 K 0 9 8	23 K 0 9 9	24 K 1 0 0
25 K 1 0 1	26 K 1 0 2	27 K 1 0 3	28 K 1 0 4	29 K 0 8 7	30 K 1 0 5

**C. Commercial Chemical Product Hazardous Wastes.** Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31 U 1 0 8	32 U 1 1 0	33 U 1 1 2	34 U 1 1 3	35 U 1 1 5	36 U 1 1 7
37 U 1 1 8	38 U 1 2 1	39 U 1 2 2	40 U 1 2 3	41 U 1 2 4	42 U 1 2 5
43 U 1 2 7	44 U 1 2 9	45 U 1 3 2	46 U 1 3 9	47 U 1 4 0	48 U 1 4 4

**D. Listed Infectious Wastes.** Enter the four-digit number from 40 CFR Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

**E. Characteristics of Nonlisted Hazardous Wastes.** Mark "X" in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. (See 40 CFR Parts 261.21 — 261.24)☐ 1. Ignitable  
(D001)☐ 2. Corrosive  
(D002)☐ 3. Reactive  
(D003)☐ 4. Toxic  
(D000)**XI. Certification**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Name and Official Title (type or print)

Date Signed

EPA Form 8700-12 (Rev. 11-85) Reverse

C  
WT/A C  
1**X. Description of Hazardous Wastes (continued from front)****A. Hazardous Wastes from Nonspecific Sources.** Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

**B. Hazardous Wastes from Specific Sources.** Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

**C. Commercial Chemical Product Hazardous Wastes.** Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31 U 2 0 1	32 U 2 0 2	33 U 2 0 7	34 U 2 0 8	35 U 2 0 9	36 U 2 1 0
37 U 2 1 1	38 U 2 1 2	39 U 2 1 3	40 U 2 1 9	41 U 2 2 0	42 U 2 2 1
43 U 2 2 3	44 U 2 2 4	45 U 2 2 6	46 U 2 2 7	47 U 2 2 8	48 U 2 2 9

**D. Listed Infectious Wastes.** Enter the four-digit number from 40 CFR Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

**E. Characteristics of Nonlisted Hazardous Wastes.** Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. (See 40 CFR Parts 261.21 — 261.24)☐ 1. Ignitable  
(D001)☐ 2. Corrosive  
(D002)☐ 3. Reactive  
(D003)☐ 4. Toxic  
(D000)**XI. Certification**

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

Signature

Name and Official Title (type or print)

Date Signed





EPA Form 8700-12 (Rev. 11-85) Reverse



Please print or type in the unshaded areas only  
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1		U.S. ENVIRONMENTAL PROTECTION AGENCY		EPA I.D. NUMBER	
GENERAL		GENERAL INFORMATION		F C A D 0 2 8 4 0 9 0 1 9	
LABEL ITEMS		Consolidated Permits Program		(Read the "General Instructions" before starting.)	
I. EPA I.D. NUMBER		PLEASE PLACE LABEL IN THIS SPACE		GENERAL INSTRUCTIONS	
III. FACILITY NAME				If a preprinted label has been provided, affix it in the designated space. Review the information carefully. If any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorization under which this data is collected.	
V. FACILITY MAILING ADDRESS					
VI. FACILITY LOCATION					
II. POLLUTANT CHARACTERISTICS					
INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.					
SPECIFIC QUESTIONS		MARK "X"		SPECIFIC QUESTIONS	
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S? (FORM 2A)		YES	NO	B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S? (FORM 2B)	
C. Is this facility, which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		16	17	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S? (FORM 2D)	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		22	23	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing within one quarter mile of the well bore underground sources of drinking water? (FORM 4)	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production. Inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		28	29	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		34	35	J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	
III. NAME OF FACILITY		MARK "X"		FORM ATTACHED	
1 SKIP CROSBY & OVERTON - PLANT 1		YES		NO	
IV. FACILITY CONTACT					
A. NAME & TITLE (last, first, & title)				B. PHONE (area code & no.)	
2 MATTHEWS, JOHN V. P. OF ENGINEER				213 432 5445	
V. FACILITY MAILING ADDRESS					
A. STREET OR P.O. BOX					
3 1610 WEST 17th STREET					
B. CITY OR TOWN					
4 LONG BEACH					
C. STATE					
CA					
D. ZIP CODE					
90813					
VI. FACILITY LOCATION					
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER					
5 1630 WEST 17th STREET					
B. COUNTY NAME					
LOS ANGELES					
C. CITY OR TOWN					
6 LONG BEACH					
D. STATE					
CA					
E. ZIP CODE					
90813					
F. COUNTY CODE (if known)					
037					

CONTINUE ON REVERS

CONTINUED FROM THE FRONT

## VII. SIC CODES (4-digit; in order of priority)

A. FIRST				B. SECOND			
7	8	9	9	(specify)	7	(specify)	
Industrial/Marine Cleaning							
C. THIRD				D. FOURTH			
7	4	2	1	(specify)	7	(specify)	
Trucking with Storage							

## VIII. OPERATOR INFORMATION

A. NAME		B. Is the name listed in Item VIII-A also the owner?	
CROSBY & OVERTON		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify)		D. PHONE (area code & no.)	
F - FEDERAL S - STATE P - PRIVATE M - PUBLIC (other than federal or state) O - OTHER (specify)		2 1 3 4 3 2 5 4 4 5 (area code) (no.)	
E. STREET OR P.O. BOX			
1 6 3 0 WEST 1 7 t h STREET			
F. CITY OR TOWN		G. STATE	
L O N G B E A C H		C A	
H. ZIP CODE		I. INDIAN LAND	
9 0 8 1 3		Is the facility located on Indian lands?	
		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)		B. PSD (Air Emissions from Proposed Sources)	
9	N	9	P
C. UIC (Underground Injection of Fluids)		D. OTHER (specify)	
9	U	I W 1 3 1 7 (specify) County of Los Angeles Sanitation Districts	
E. RCRA (Hazardous Wastes)		F. OTHER (specify)	
9	R	M O 2 2 2 6 (specify) South Coast Air Quality Management District	

## XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

## XII. NATURE OF BUSINESS (provide a brief description)

1. Industrial & Marine Tank Cleaning
2. Industrial & Marine Waste Treatment and Disposal
3. Hazardous Waste/Material Management Including Emergency Spill Response and Both Emergency and Remedial Site Mitigation

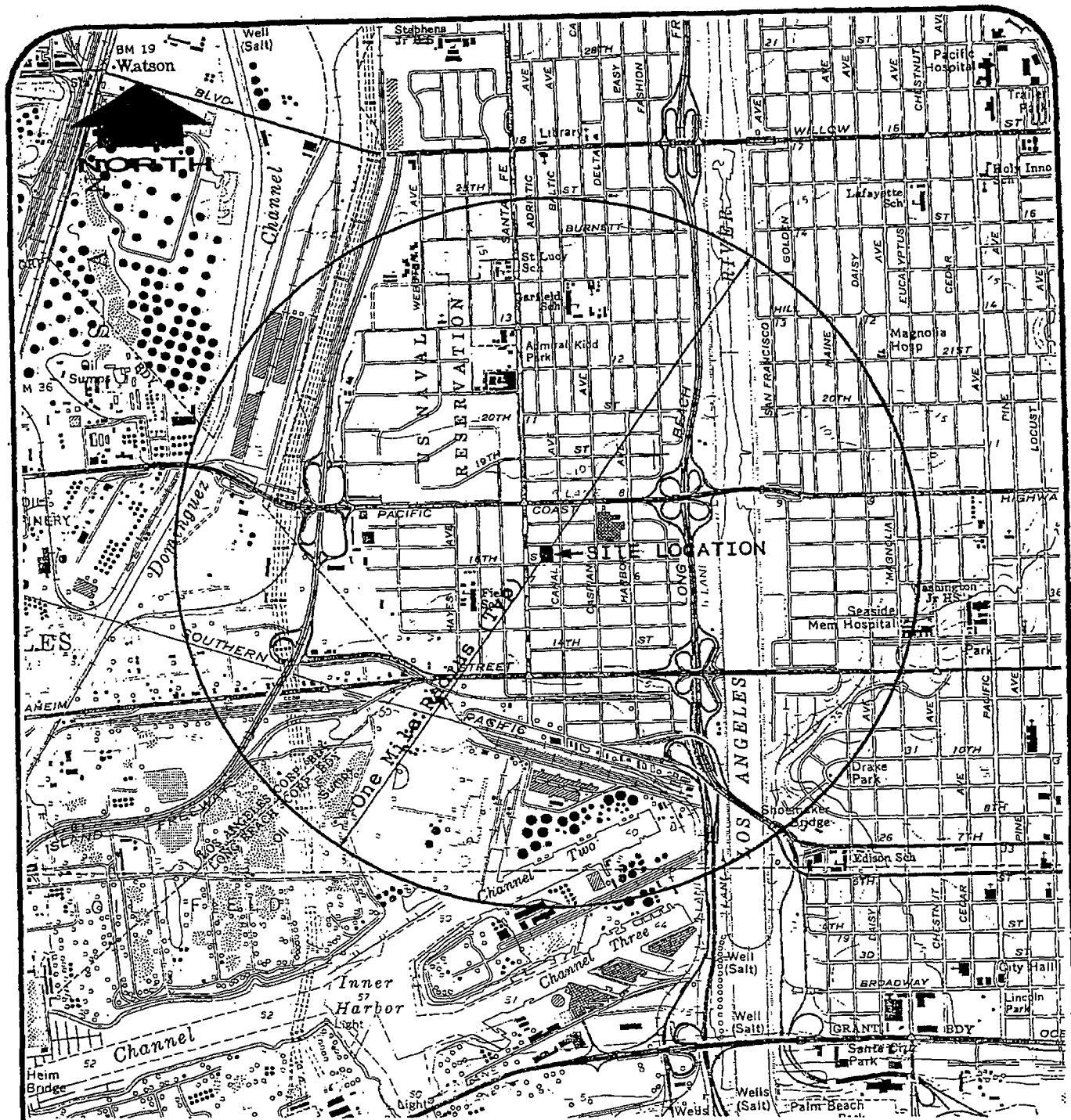
## XIII. CERTIFICATION (see instructions)

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this application and all attachments, and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED

## COMMENTS FOR OFFICIAL USE ONLY

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SOURCE: U.S. DEPT OF INTERIOR  
GEOLOGICAL SURVEY  
LONG BEACH, CALIFORNIA  
7.5 MINUTE SERIES (TOPOGRAPHICAL)  
NATIONAL GEODETIC DATUM OF  
REVISED IN 1981

CROSBY & OVERTON, LONG BEACH, CA.

ONE MILE RADIUS

DATE: 5-9-89

SCALE: 1" = 24,000'

RJ Associates

FIGURE 11-1

Form Approved OMB No. 158-S80004

II. FIRST OR REVISED APPLICATION

## II. FIRST OR REVISED APPLICATION

**A. FIRST APPLICATION** (place an "X" below and provide the appropriate date)

B. REVISED APPLICATION (place an "X" below and complete Item I above)

☐ 1. FACILITY HAS INTERIM STATUS ☐ 2. FACILITY HAS A RCRA PERMIT

### III. PROCESSES — CODES AND DESIGN CAPACITIES

**B. PROCESS DESIGN CAPACITY** — For each code entered in column A enter the capacity of the process.

- | PROCESS                        | PROCESS CODE         | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY                                 | PROCESS                                                                                                                                                                                               | PROCESS CODE            | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY                   |
|--------------------------------|----------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|
| <u>Storage:</u>                |                      |                                                                                          | <u>Treatment:</u>                                                                                                                                                                                     |                         |                                                                            |
| CONTAINER (barrel, drum, etc.) | S01                  | GALLONS OR LITERS                                                                        | TANK                                                                                                                                                                                                  | T01                     | GALLONS PER DAY OR LITERS PER DAY                                          |
| TANK                           | S02                  | GALLONS OR LITERS                                                                        |                                                                                                                                                                                                       |                         |                                                                            |
| WASTE PILE                     | S03                  | CUBIC YARDS OR CUBIC METERS                                                              | SURFACE IMPOUNDMENT                                                                                                                                                                                   | T02                     | GALLONS PER DAY OR LITERS PER DAY                                          |
| SURFACE IMPOUNDMENT            | S04                  | GALLONS OR LITERS                                                                        | INCINERATOR                                                                                                                                                                                           | T03                     | TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR |
| <u>Disposal:</u>               |                      |                                                                                          |                                                                                                                                                                                                       |                         |                                                                            |
| INJECTION WELL                 | D79                  | GALLONS OR LITERS                                                                        |                                                                                                                                                                                                       |                         |                                                                            |
| LANDFILL                       | D80                  | ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER | OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.) | T04                     | GALLONS PER DAY OR LITERS PER DAY                                          |
| LAND APPLICATION               | D81                  | ACRES OR HECTARES                                                                        |                                                                                                                                                                                                       |                         |                                                                            |
| OCEAN DISPOSAL                 | D82                  | GALLONS PER DAY OR LITERS PER DAY                                                        |                                                                                                                                                                                                       |                         |                                                                            |
| SURFACE IMPOUNDMENT            | D83                  | GALLONS OR LITERS                                                                        |                                                                                                                                                                                                       |                         |                                                                            |
|                                | UNIT OF MEASURE CODE |                                                                                          |                                                                                                                                                                                                       | UNIT OF MEASURE CODE    |                                                                            |
| UNIT OF MEASURE                |                      | UNIT OF MEASURE                                                                          |                                                                                                                                                                                                       | UNIT OF MEASURE         | UNIT OF MEASURE CODE                                                       |
| GALLONS . . . . .              | G                    | LITERS PER DAY . . . . .                                                                 | V                                                                                                                                                                                                     | ACRE-FEET . . . . .     | A                                                                          |
| LITERS . . . . .               | L                    | TONS PER HOUR . . . . .                                                                  | D                                                                                                                                                                                                     | HECTARE-METER . . . . . | F                                                                          |
| CUBIC YARDS . . . . .          | Y                    | METRIC TONS PER HOUR . . . . .                                                           | W                                                                                                                                                                                                     | ACRES . . . . .         | B                                                                          |
| CUBIC METERS . . . . .         | C                    | GALLONS PER HOUR . . . . .                                                               | E                                                                                                                                                                                                     | HECTARES . . . . .      | Q                                                                          |
| GALLONS PER DAY . . . . .      | U                    | LITERS PER HOUR . . . . .                                                                | H                                                                                                                                                                                                     |                         |                                                                            |

**EXAMPLE FOR COMPLETING ITEM III** (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																				
C		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100	
C		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100	
C		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67																																																																			



Continued from the front.

**III. PROCESSES (continued)**

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04 -	Process Code	Design Capacity
	T21 - Chemical Fixation	5,000 U
	T22 - Chemical Oxidation	45,883 U
	T37 - Coagulation	45,883 U
	T40 - Filtration	43,588 U
	T41 - Flocculation	45,883 U
	T42 - Flotation	45,883 U
	T45 - Thickening (sludge)	3,422 U
	T49 - Activated Carbon	43,200 - 57,600 U
	T50 - Blending	10,000 U
	T65 - Sand Filter	43,588 U

**IV. DESCRIPTION OF HAZARDOUS WASTES**

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS.....	P	KILOGRAMS.....	K
TONS.....	T	METRIC TONS.....	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

**D. PROCESSES****1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above



Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 25 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY														
W C A D O 2 8 4 0 9 0 1 9 1													B W DUP T/A C 2 DUP														
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																											
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE				C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))									
	23	24	25	26	27	28	29	30		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
1	D	0	0	1	1,000				T	S	0	1	S	0	2	T	0	1	T	0	4						
2	D	0	0	2	1,000				T	S	0	1	S	0	2	T	0	1	T	0	4						
3	D	0	0	3	1,000				T	S	0	1	S	0	1	T	0	1	T	0	4						
4	D	0	0	4						S	0	1	S	0	1	T	0	1	T	0	4	Included with line 3.A.1					
5	D	0	0	5	10				T	S	0	1							T	0	4						
6	D	0	0	6						S	0	1	S	0	2	T	0	1	T	0	4	Included with line 3.A.1					
7	D	0	0	7						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
8	D	0	0	8						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
9	D	0	0	9						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
10	D	0	1	0						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
11	D	0	1	1						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
12	D	0	1	2						S	0	1							T	0	4	Included with Line 3.A.5					
13	D	0	1	3						S	0	1							T	0	4	" " " "					
14	D	0	1	4						S	0	1							T	0	4	" " " "					
15	D	0	1	5						S	0	1							T	0	4	" " " "					
16	D	0	1	6						S	0	1							T	0	4	" " " "					
17	D	0	1	7						S	0	1							T	0	4	" " " "					
18	D	0	0	0	1,500				T	S	0	1	S	0	2	T	0	1	T	0	4						
19	F	0	0	1	100				T	S	0	1							T	0	4						
20	F	0	0	2						S	0	1							T	0	4	Included with Line 3.A.19					
21	F	0	0	3						S	0	1	S	0	2	T	0	1	T	0	4	Included with Line 3.A.1					
22	F	0	0	4						S	0	1							T	0	4	Included with Line 3.A.5					
23	F	0	0	5						S	0	1							T	0	4	Included with Line 3.A.5					
24	F	0	0	6						S	0	1	S	0	2	T	0	1	T	0	4	Included with Line 3.A.18					
25	F	0	0	7						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					
26	F	0	0	8						S	0	1	S	0	2	T	0	1	T	0	4	" " " "					

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY												
W C A D O 2 8 4 0 9 0 1 9													W 2 DUP												
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																									
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																					
				1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))													
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
1	F 0 0 9				S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.18																
2	F 0 1 0				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
3	F 0 1 1				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
4	F 0 1 2				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
5	F 0 1 9				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
6	F 0 2 0				S 0 1			T 0 4	" " "																
7	F 0 2 1				S 0 1			T 0 4	" " "																
8	F 0 2 2				S 0 1			T 0 4	" " "																
9	F 0 2 3				S 0 1			T 0 4	" " "																
10	F 0 2 4				S 0 1			T 0 4	" " "																
11	F 0 2 6				S 0 1			T 0 4	" " "																
12	F 0 2 7				S 0 1			T 0 4	" " "																
13	F 0 2 8				S 0 1			T 0 4	" " "																
14	K 0 0 1				S 0 1			T 0 4	" " "																
15	K 0 0 2				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
16	K 0 0 3				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
17	K 0 0 4				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
18	K 0 0 5				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
19	K 0 0 6				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
20	K 0 0 7				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
21	K 0 0 8				S 0 1	S 0 2	T 0 1	T 0 4	" " "																
22	K 0 0 9				S 0 1			T 0 4	" " "																
23	K 0 1 0				S 0 1			T 0 4	" " "																
24	K 0 1 1				S 0 1			T 0 4	" " "																
25	K 0 1 2				S 0 1			T 0 4	" " "																
26	K 0 1 3				S 0 1			T 0 4	" " "																

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 25 wastes to list.

Form Approved OMB No. 158-SB0004

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY									
W C A D O 2 8 4 0 9 0 1 9 1															W DUP 2 DUP									
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)															D. PROCESSES									
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)					B. ESTIMATED ANNUAL QUANTITY OF WASTE					C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)					2. PROCESS DESCRIPTION (if a code is not entered in D(1))							
	27	28	29	30	31	32	33	34	35	36		37	38	39	40	41	42	43	44					
1	K	O	1	4								S	O	1				T	O	4	Included with Line 3.A.18			
2	K	O	1	5								S	O	1				T	O	4	" " "			
3	K	O	1	6								S	O	1				T	O	4	" " "			
4	K	O	1	7								S	O	1				T	O	4	" " "			
5	K	O	1	8								S	O	1				T	O	4	" " "			
6	K	O	1	9								S	O	1				T	O	4	" " "			
7	K	O	2	0								S	O	1				T	O	4	" " "			
8	K	O	2	1								S	O	1				T	O	4	" " "			
9	K	O	2	2								S	O	1				T	O	4	" " "			
10	K	O	2	3								S	O	1				T	O	4	" " "			
11	K	O	2	4								S	O	1				T	O	4	" " "			
12	K	O	9	3								S	O	1				T	O	4	" " "			
13	K	O	9	4								S	O	1				T	O	4	" " "			
14	K	O	2	5								S	O	1				T	O	4	" " "			
15	K	O	2	6								S	O	1				T	O	4	" " "			
16	K	O	2	7								S	O	1				T	O	4	" " "			
17	K	O	2	8								S	O	1				T	O	4	" " "			
18	K	O	2	9								S	O	1				T	O	4	" " "			
19	K	O	9	5								S	O	1				T	O	4	" " "			
20	K	O	9	6								S	O	1				T	O	4	" " "			
21	K	O	3	0								S	O	1				T	O	4	" " "			
22	K	O	8	3								S	O	1				T	O	4	" " "			
23	K	1	0	3								S	O	1				T	O	4	" " "			
24	K	1	0	4								S	O	1				T	O	4	" " "			
25	K	O	8	5								S	O	1				T	O	4	" " "			
26	K	1	0	5								S	O	1				T	O	4	" " "			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)												FOR OFFICIAL USE ONLY											
W C A D O 2 8 4 0 9 0 1 9												W DUP											
T/A C 1												T/A C 2 DUP											

## IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES								
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))				
1	K 0 4 4			S 0 1				T 0 4	Included with Line 3.A.18			
2	K 0 4 5			S 0 1				T 0 4	" " " "			
3	K 0 4 6			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
4	K 0 4 7			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
5	K 0 7 1			S 0 1				T 0 4	" " " "			
6	K 0 7 3			S 0 1				T 0 4	" " " "			
7	K 1 0 6			S 0 1				T 0 4	" " " "			
8	K 0 4 8			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
9	K 0 4 9			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
10	K 0 5 0			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
11	K 0 5 1			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
12	K 0 5 2			S 0 1	S 0 2	T 0 1		T 0 4	" " " "			
13	K 0 6 1			S 0 1				T 0 4	" " " "			
14	K 0 6 2			S 0 1				T 0 4	Included with Line 3.A.1			
15	K 0 3 1			S 0 1				T 0 4	Included with Line 3.A.18			
16	K 0 3 2			S 0 1				T 0 4	" " " "			
17	K 0 3 3			S 0 1				T 0 4	" " " "			
18	K 0 3 4			S 0 1				T 0 4	" " " "			
19	K 0 9 7			S 0 1				T 0 4	" " " "			
20	K 0 3 5			S 0 1				T 0 4	" " " "			
21	K 0 3 6			S 0 1				T 0 4	" " " "			
22	K 0 3 7			S 0 1				T 0 4	" " " "			
23	K 0 3 8			S 0 1				T 0 4	" " " "			
24	K 0 3 9			S 0 1				T 0 4	" " " "			
25	K 0 4 0			S 0 1				T 0 4	" " " "			
26	K 0 4 1			S 0 1				T 0 4	" " " "			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 159-S90004

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY												
W C A D I 0 2 8 4 0 9 0 1 9 1													W DUP												
T/A C													T/A C												
1 2 3 4 5 6 7 8 9 10 11 12													1 2 3 4 5 6 7 8 9 10 11 12												
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																									
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))													
				27	28	29	30	31	32	33	34	35	36	37	38	39	40								
1	K 0 9 8			S 0 1									T 0 4	Included with Line 3.A.18											
2	K 0 4 2			S 0 1									T 0 4	" " "											
3	K 0 4 3			S 0 1									T 0 4	" " "											
4	K 0 9 9			S 0 1									T 0 4	" " "											
5	K 0 6 9			S 0 1									T 0 4	" " "											
6	K 1 0 0			S 0 1									T 0 4	" " "											
7	K 0 8 4			S 0 1									T 0 4	" " "											
8	K 1 0 1			S 0 1									T 0 4	" " "											
9	K 1 0 2			S 0 1									T 0 4	" " "											
10	K 0 8 6			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
11	K 0 6 0			S 0 1									T 0 4	" " "											
12	K 0 8 7			S 0 1									T 0 4	" " "											
13	U 0 0 2			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.1																	
14	U 1 2 3			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
15	U 1 3 4			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
16	U 0 1 9			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.5																	
17	U 1 6 0			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.3																	
18	P 0 3 0			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
19	U 2 3 9			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.1																	
20	U 1 3 3			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.2																	
21	U 2 2 0			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.1																	
22	P 0 7 4			S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.3																	
23	P 0 9 8			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
24	P 1 0 4			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
25	P 1 0 6			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	
26	P 1 2 2			S 0 1	S 0 2	T 0 1	T 0 4	" " "																	

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY											
W C A D 0 2 8 4 0 9 0 1 9													W 1 2 DUP											
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)													D. PROCESSES											
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)			B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))										
	22	23	24			27	28	29	30	31	32	33	34		35									
1	P	0	2	1										S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.3						
2	P	0	2	9										S 0 1	S 0 2	T 0 1	T 0 4	" " "						
3	P	1	2	1										S 0 1	S 0 2	T 0 1	T 0 4	" " "						
4	P	0	1	3										S 0 1	S 0 2	T 0 1	T 0 4	" " "						
5	U	0	2	3										S 0 1	S 0 2	T 0 1	T 0 4	Included with Line 3.A.1						
6																								
7																								
8																								
9																								
10																								
11																								
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25																								
26																								

Continued from the front.

## IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

Attachment A is a list of additional waste codes. All have process code S01.

The estimated annual quantity will be less than 10 tons.

EPA I.D. NO. (enter from page 1)

F C A D 0 2 8 4 0 9 0 1 9 16

## V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

## VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

## VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, &amp; seconds)

LONGITUDE (degrees, minutes, &amp; seconds)

33 47 01 6

118 12 04 9

## VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code &amp; no)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

## IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

## X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

## Appendix A

SHT 1 of 6

Hazardous waste No.	Chemical Abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	840-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P066	16752-77-5	Acetimidic acid, N-[(methylcarbamoyloxy)thio-, methyl ester
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	115-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P008	20659-73-8	Aluminum phosphide (R,T)
P007	2763-98-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-alpha-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P010	7778-39-4	Arsenic acid
P012	1327-53-3	Arsenic oxide As <sub>2</sub>
P011	1303-28-2	Arsenic oxide As <sub>2</sub> O <sub>3</sub>
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P038	696-28-6	Arsinous dichloride, phenyl-
P054	151-56-4	Aziridine
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)
P046	122-09-8	Benzenesulfonamide, alpha, alpha-dimethyl-
P014	108-98-5	Benzenethiol
P001	81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium dust
P016	542-66-1	Bis(chloromethyl) ether
P017	598-31-2	Bromoacetone
P018	357-07-3	Bruce
P021	592-01-8	Calcium cyanide
P022	75-15-0	Carbon disulfide
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P029	544-92-3	Copper cyanide
P030	—	Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P034	131-59-5	2-Cyclohexyl-4,6-dinitrophenol
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropyl fluorophosphate (DEP)
P004	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4beta,5alpha,8alpha,8beta)-
P060	465-73-6	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4beta,5beta,8beta,8beta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3b]oxirane, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2alpha,3beta,5beta,6alpha,7beta,7alpha)-
P051	72-20-8	2,7:3,6-Dimethanonaphth[2,3b]oxirane, octahydro-, (1aalpha,2beta,2alpha,3alpha,6alpha,6beta,7beta,7alpha)-
P044	60-51-5	Dimethoate
P045	39196-18-4	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime

Hazardous waste No.	Chemical Abstracts No.	Substance
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-98-3	Acetamide, N-9H-fluorene-2-yl-
U112	141-78-6	Acetic acid, ethyl ester (I)
U144	301-04-2	Acetic acid, lead salt
U214	563-68-8	Acetic acid, thallium (1+) salt
U232	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-95-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amibrole
U012	62-53-3	Aniline (I,T)
U014	402-80-8	Auramine
U015	115-02-6	Azaxene
U010	50-07-7	Azino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-9-[[[aminocarbonyloxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-
U157	50-49-5	Benz[1]acanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	3,4-Benzaziridine
U017	98-87-3	Benzal chloride
U192	23950-68-5	Benzenamine, 3,5-dichloro-N-(1,1-diethyl-2-propenyl)-
U018	58-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carboximidoylbis(N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene
U038	510-15-6	Benzenoacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenesulfonic acid, 4-bis(2-chloroethyl)amino-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U086	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloro-ethylidene) bis(4-chloro-
U017	96-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diazocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-68-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U108	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	68-95-3	Benzene, nitro- (I,T)
U183	608-93-5	Benzene, pentachloro-
U185	82-58-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)



## Appendix A

SHT 2 of 6

Hazardous waste No.	Chemical Abstracts No.	Substance
P046	122-09-8	alpha, alpha-Dimethylphenethylamine
P047	534-62-1	4,6-Dinitro-o-cresol and salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramidate, octamethyl-
P039	298-04-4	Disulfoton
P049	541-53-7	2,4-Dithiobutrol
P050	115-26-7	Endosulfan
P068	145-73-3	Endothal
P051	72-20-8	Endrin
P042	51-43-4	Epinephrine
P101	107-12-0	Ethyl cyanide
P054	151-86-4	Ethyleneimine
P097	52-85-7	Fampnur
P055	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyltetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P083	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P064	624-83-9	Isocyanic acid, methyl ester
P080	465-73-6	Isonin
P007	2763-66-4	3(2H)-Isosaxolone, 5-(aminomethyl)-
P082	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methamine, N-methyl-N-nitroso-
P016	542-86-1	Methane, oxybis(chloro-)
P112	508-14-8	Methane, tetranitro- (R)
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,6-Methano-2,4,3-benzodioxathiepen, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	75-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P067	75-55-8	2-Methylaziridine
P065	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-88-5	2-Methylacetonitrile
P071	298-00-0	Methyl parathion
P072	88-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl, [T-4-]
P075	54-11-5	Nicotine and salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO <sub>2</sub>
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4548-40-0	N-Nitrosomethylvinylamine
P074	557-19-7	Nickel cyanide
P085	152-16-9	Octamethylpyrophosphoramidate
P087	20816-12-0	Osmium oxide
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	534-62-1	Phenol, 2-methyl-4,6-dinitro- and salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-(2-ethylthio)ethyl ester

Hazardous waste No.	Chemical Abstracts No.	Substance
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)[4-methoxy-
U023	68-07-7	Benzene, (trichloromethyl)- (C,R,T)
U234	99-35-4	Benzene, 1,3,5-trinitro- (R,T)
U021	92-87-5	Benzidine
U202	11-07-2	1,2-Benzisothiazol-3-(2H)-one, 1,1-dioxide and salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[ai]pyrene
U022	50-32-8	p-Benzquinone
U187	106-51-4	Benzotrichloride (C,R,T)
U023	98-07-7	2,2'-Bioxirane (LT)
U085	146-53-5	[1,1'-Biphenyl]-4,4'-diamine
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U095	119-93-7	Bis(2-chloroisopropyl) ether
U027	39638-32-9	Bis(2-chloromethoxy) ethane
U024	111-91-1	Bis(2-ethylhexyl) phthalate
U028	117-81-7	Bromotorm
U225	75-25-2	4-Bromophenyl phenyl ether
U030	101-55-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U128	87-68-3	1-Butanamine, N-butyl-N-nitroso-
U172	924-16-3	1-Butanol (I)
U031	71-36-3	2-Butanone (LT)
U159	78-93-3	2-Butanone peroxide (R,T)
U160	1338-23-4	2-Butanol
U053	4170-30-3	2-Butene, 1,4-dichloro- (LT)
U074	764-41-0	2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a-tetrahydro-1-pyrazolizin-1-yl ester, [1S-[1alpha(2),7(2S,3R),7aalpha]]
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Calcodylic acid
U032	13765-19-0	Calcium chromate
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, cumethyl-
U114	111-54-6	Carbamodithioic acid, 1,2-ethanedithiolbis-, salts and esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2-propenyl) ester
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (LT)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	12789-03-6	Chlordane
U026	494-03-1	Chloromaphazine
U037	108-90-7	Chlorobenzene
U039	59-50-7	p-Chloro-m-cresol
U041	106-89-8	1-Chloro-2,3-epoxypropane
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid, calcium salt
U050	218-01-9	Chrysene
U051	8021-39-4	Creosote
U052	1319-77-3	Cresols (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	505-68-3	Cyanogen bromide
U187	106-51-4	2,5-Cyclohexadiene-1,4-dione

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Hazardous waste No.	Chemical Abstracts No.	Substance
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorothioic acid, bis(1-methyl-ethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-(4-[(dimethylamino)sulfonyl]phenyl) O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
P110	75-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P099	506-61-6	Potassium silver cyanide
P070	118-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P059	75-85-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propanal
P005	107-18-6	2-Propan-1-ol
P067	75-55-8	1,3-Propylenimine
P102	591-08-2	2-Propyn-1-ol
P038	504-24-5	Pyridamine
P075	154-11-5	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	107-49-3	Pyrophosphoric acid, tetraethyl ester
P103	530-10-4	Selenourea
P104	506-64-9	Silver cyanide
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P107	1314-98-1	Strontium sulfide
P108	157-24-9	Strychnidin-10-one, and salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	157-24-9	Strychnine and salts
P115	10031-59-1	Sulfuric acid, thallium(I) salt
P109	3689-24-5	Tetraethylthiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethylpyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium(III) oxide
P114	12039-32-0	Thallium(I) selenide
P115	10031-59-1	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofuran
P049	541-53-7	Thioimido(dicarbonyl) diamide
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-62-1	Thiourea, (2-chlorophenyl)-
P072	66-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-6	Thiourea, phenyl-
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-8	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium(V) oxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	81-81-2	Warfarin
P121	557-21-1	Zinc cyanide
P122	1314-84-7	Zinc phosphide (R,T)

Hazardous waste No.	Chemical Abstracts No.	Substance
U055	110-82-7	Cyclohexane (I)
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	194-75-7	2,4-D, salts and esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDO
U081	50-28-3	DDT
U052	2303-16-4	Diallate
U083	53-70-3	Dibenz[a,h]anthracene
U084	189-55-9	Dibenzo[a,l]pyrene
U068	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	105-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	75-11-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-1	Dichloroethyl ether
U081	120-83-2	2,4-Dichlorophenol
U082	87-85-0	2,6-Dichlorophenol
U240	194-75-7	2,4-Dichlorophenoxyacetic acid, salts and esters
U083	78-87-5	1,2-Dichloropropane
U084	542-75-6	1,3-Dichloropropane
U085	1464-53-5	1,2,3,4-Diisopropylbutane (I,T)
U108	123-91-1	1,4-Diethylenesulfide
U086	1615-80-1	N,N-Diethylhydrazine
U087	3285-58-2	O,O-Diethyl-S-methyl-dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbestrol
U090	94-68-6	Dihydroacrolein
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	Dimethylaminobenzene
U094	57-97-5	7,12-Dimethylbenz[a]anthracene
U095	118-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-(methylenedioxy)bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis- (I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	78-01-7	Ethane, pentachloro-
U208	830-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-53-5	Ethanethioamide
U227	110-80-5	Ethanol, 2-ethoxy-
U359	79-00-5	Ethane, 1,1,2-trichloro-
U173	1116-54-7	Ethanol, 2,2'-(nitrosimino)bis-
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethane, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-

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Hazardous waste No.	Chemical Abstracts No.	Substance
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (l)
U113	140-88-5	Ethyl acrylate (l)
U238	51-79-6	Ethyl carbamate
U038	510-15-6	Ethyl 4,4'-dichlorobenzilate
U114	111-54-6	Ethylenebis(dithiocarbamic acid), salts and esters
U067	106-83-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (l,T)
U116	96-45-7	Ethylene thiourea
U117	60-29-7	Ethyl ether (l)
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	82-50-0	Ethylmethanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (l)
U125	98-01-1	2-Furancarboxaldehyde (l)
U147	108-31-8	2,5-Furandione
U213	109-99-9	Furan, tetrahydro- (l)
U125	98-01-1	Furfural (l)
U124	110-00-9	Furfuran (l)
U206	18883-66-4	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126	765-34-4	Glycidylaldehyde
U183	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	18-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U129	58-88-9	Hexachlorocyclohexane (gamma isomer)
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U085	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U136	75-80-5	Hydroxydimethylarsine oxide
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U139	9004-66-4	Iron dextran
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (l,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepon
U143	303-34-4	Laslocarpine
U144	301-04-2	Lead acetate
U145	1335-32-6	Lead, bis(acetoato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (l,T)
U092	124-40-3	Methanamine, N-methyl- (l)
U029	74-83-8	Methane, bromo-
U045	74-87-3	Methane, chloro-(l,T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-83-1	Methanethiol (l,T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U123	64-16-6	Methanoic acid (C,T)
U154	67-56-1	Methanol (l)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachloro-octahydro-

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Hazardous waste No.	Chemical Abstracts No.	Substance
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Hazardous waste No.	Chemical Abstracts No.	Substance
U247	72-43-5	Methoxychlor
U154	57-55-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U158	79-22-1	Methylchloroacetate (I,T)
U226	71-55-6	Methylchloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U163	70-25-7	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Micromycin C
U059	20830-81-3	5,12-Naphthacenedione, (8S-cis)-8-acyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-xylohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)]-bis (2:0) bis(5-amino-4-hydroxy)-, tetrasodium salt
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U026	494-03-1	2-Naphthylamine, N,N'-bis(2-chloroethyl)-
U167	134-32-7	1-Naphthylamine
U168	91-59-8	2-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	815-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopipendine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
U242	87-86-5	Pentachlorophenol
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U170	100-02-7	Phenol, 4-nitro-
U242	87-86-5	Phenol, pentachloro-
U212	58-90-2	Phenol, 2,3,4,6-tetrachloro-
U230	95-94-4	Phenol, 2,4,5-trichloro-
U231	85-06-2	Phenol, 2,4,6-trichloro-
U150	146-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead salt
U087	3289-58-2	Phosphorodithioic acid, O,O-diethyl-, S-methyl ester
U189	108-95-2	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-6	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)

## APPENDIX A

SHT 6 of 6

Hazardous waste No.	Chemical Abstracts No.	Substance
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	39638-32-9	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sulfone
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U084	542-75-6	1-Propane, 1,3-dichloro-
U152	126-98-7	2-Propanenitrile, 2-methyl- (I,T)
U007	79-06-1	2-Propanamide
U243	1888-71-7	1-Propane, hexachloro-
U009	107-13-1	2-Propanenitrile
U008	79-10-7	2-Propenoic acid (I)
U113	140-68-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-66-2	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U233	93-72-1	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	107-10-8	n-Propylamine (I,T)
U063	78-87-5	Propylene dichloride
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro
U196	110-66-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4-(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thio-
U180	930-55-2	Pyrolidine, 1-nitroso-
U200	50-65-5	Reserpine
U201	108-46-3	Resorcinol
U202	81-07-2	Saccharin and salts
U203	84-59-7	Salrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7446-34-6	Selenium sulfide (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
U233	93-72-1	Silvax
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
U232	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
U212	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	15843-14-8	Thallium (I) acetate
U215	6533-73-9	Thallium (I) carbonate
U216	7791-12-0	Thallium chloride
U217	10102-45-1	Thallium (I) nitrate
U218	82-55-5	Thioacetamide
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide, tetramethyl-
U219	62-58-6	Thiourea
U244	137-26-8	Thiuram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U226	71-55-6	1,1,1-Trichloroethane
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
U230	95-95-4	2,4,5-Trichlorophenol
U231	88-06-2	2,4,6-Trichlorophenol
U234	99-35-4	sym-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	81-81-2	Warfarin, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxyl]-, methyl ester
U249	1314-84-7	Zinc phosphide, when present at concentrations of 10% or less.



## CHEMICAL WASTE MANAGEMENT

107 SOUTH MOTOR, AZUSA, CA. 91702

FAX

Date: March 23, 1999

Number of pages including cover sheet: \_\_\_\_\_

To:

GLEN ANDROSKO

Phone: \_\_\_\_\_

Fax phone: 949-727-7399

From:

CINDY KIMMELPhone: 626-815-2204Fax phone: 626-969-8591

REMARKS:

☐

Urgent

☐

For your review

☐

Reply ASAP

☐

Please comment

CHEMICAL WASTE MANAGEMENT AZUSA FACILITY IS APPROVED TO ACCEPT PCB  
CONTAMINATED WASTE <50 PPM FROM A NON-TSCA SOURCE.

**FAX****WASTE MANAGEMENT INC.**

Date

3-9-99

Number of pages including cover sheet

25

To:

EricConsolidated Waste

Phone

Fax Phone

909-482-2272

CC:

From:

CINDY KIMMELAZUSA FACILITY107 SOUTH MOTORAZUSA, CA. 91702

Phone

626-815-2204

Fax Phone

626-334-4563**REMARKS:**☐ Urgent☐ For your review☐ Reply ASAP☐ Please comment

Part A you requested

Use Only

United States Environmental Protection Agency  
Washington, DC 20460Hazardous Waste Permit  
Application  
Part A

(Read the instructions before starting)

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

☐

A. First Part A Submission

☐

B. Part A Amendment # \_\_\_\_\_

C. Installation's EPA ID Number

D. Secondary ID Number (if applicable)

2 3 0 0 8 7 0 2 9 0 3 8 9 - 3 - T E - 0 0 1

II. Name of Facility

C H E M I C A L W A S T E M A N A G E M E N T I N C

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

1 7 0 4 T E I S T F I P S T S T P E E T

Street (Continued)

City or Town

State

Zip Code

Z U S A

C A 9 1 7 0 2 - 3 2 0 2

County Code

County Name

L O S A N G E L E S

B. Land Type

C. Geographic Location

D. Facility Existence Date

(Enter code)

LATITUDE (Degrees, Minutes, &amp; Seconds)

LONGITUDE (Degrees, Minutes, &amp; Seconds)

Month Day Year

P

3 7 0 7 0 1 5 1 1 7 5 6 0 0 9

0 3 1 0 1 9 5 4

IV. Facility Mailing Address

Street or P.O. Box

P O B O X 9 0 7 - P P P

City or Town

State

Zip Code

A Z U S A C A 9 1 7 0 2 - 3 2 0 2

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (LAST)

(First)

K I S O W A Y N E

Job Title

Phone Number (Area Code and Number)

P I A N C M A N A G E R 8 1 8 - 3 3 4 - 5 1 1 7

VI. Facility Contact Address (See instructions)

A. Contact Address

B. Street or P.O. Box

Current Address Other

X

City or Town

State

Zip Code



Secondary ID Number (enter from page 1)

## VII. Operator Information (See instructions)

Name of Operator

Street or P.O. Box

City or Town

State

ZIP Code

Phone Number (Area Code and Number)

B. Operator Type

C. Change of Operator Indicator

Date Changes

## VIII. Facility Owner (See instructions)

A. Name of Facility's Legal Owner

Street or P.O. Box

City or Town

State

ZIP Code

Phone Number (Area Code and Number)

B. Owner Type

C. Change of Owner Indicator

Date Changes

## IX. SIC Codes (4-digit, in order of significance)

Primary

Secondary

4 0 5 1 Recycling Solvents/  
Hazardous Waste

5 5 1 Wholesale Distribution

## X. Other Environmental Permits (See instructions)

A. Permit Type  
(Enter code)

B. Permit Number

C. Description

R	C	A	0	0	0	8	1	0	2	9	0	1	7	RCRA "Part B" Permit
E	1	1	6	4	1									Industrial Wastewater Discharge
E	C	I	E			3	T	-	A	C	U	E	P	Water Pollution Discharge
E	C	U	P	=	C	-	8	9	-	A				Conditional Use Permit (CUP)
N	S	I	E			A	T	T	A	C	H	E	D	Application for NPDES: NOT

EPA Form Number (Enter from Page 1)

Secondary ID Number (Enter from Page 1)

## XI. Nature of Business (Provide a brief description)

The Chemical Waste Management, Inc. (CWM-Azusa) Azusa facility provides industrial waste management services including solvent recycling services to a variety of members of the industrial community, including the automotive, electronics, metal cleaning, packaging and paint industries. Solvent recycling operations are performed using Distillation and Thin Film Evaporation Units. Waste residues are transported off-site for treatment, disposal or use as supplemental fuels. As part of its modernization program, CWM-Azusa has approval to construct units to treat used oils, ethylene glycol and waste solvents and to store in drums collected from its customers.

## XII. Process Codes and Design Capacities

- A. **PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet or label with the additional information. For "other" processes (i.e., 099, T04 and X99), describe the process including its design capacity in the space provided in item XII.
- B. **PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.
1. **AMOUNT** - Enter the amount in a case where design capacity is not applicable (such as in a closure/cost-closure or enforcement action) enter the total amount of waste for that process.
  2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.
- C. **PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
079	Disposal:		T87	Smelting, melting, or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour
080	Underground Injection	Gallons; Liters; Gallons Per Day; or Liters Per Day	T88	Of Refining Furnace	
081	Landfill	Acres or hectares	T89	Titanium Dioxide Chloride Process	
082	Land Treatment	Acres or hectares	T90	Oxidation Reactor	
083	Ocean Disposal	Gallons per Day; Liters Per Day	T91	Medium Reforming Furnace	
084	Surface Impoundment	Gallons or Liters	T92	Pulping Liquor Recovery Furnace	
089	Other Disposal	Any Unit of Measure Listed Below	T93	Combustion Device Used in The Recovery of Sulfur Values from Spent Sulfuric Acid	
S01	Storage:		T94	Hydrogen Acid Furnace	
S02	Container (Barrel, Drum, Etc.)	Gallons or Liters	T95	Other Industrial Furnaces Listed in 40 CFR §260.10	
S03	Tank	Gallons or Liters	T96	Combustion Building (Treatment)	
S04	Waste Pile	Cubic Yards or Cubic Meters	X01	MISCELLANEOUS (Specify X)	Any Unit of Measure Listed Below
S05	Surface Impoundment	Gallons or Liters	X02	Open burning/Other Combustion	
S06	On-Pipe	Gallons or Liters	X03	Mechanical Processing	
S07	Containment	Cubic Yards or Cubic Meters	X04	Thermal Unit	
S08	Building-storage	Cubic Yards or Cubic Meters	X05	Geologic Repository	
S09	Other Storage	Any Unit of Measure Listed Below	X06	Other Support X	
T01	Treatment:				
T02	Tank	Gallons Per Day or Liters Per Day			
T03	Surface impoundment incinerator	Gallons Per Day or Liters Per Day; Short Tons Per Hour; Metric Tons Per Hour; Gallons per hour; Liters Per Hour; or BTUs Per Hour			
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Metric Tons Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T80	Boiler	Gallons or Liters			
T81	Canister Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T82	Lime Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T83	Aggregate Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T84	Pressure Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T85	Coke Oven	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			
T86	Black Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or BTUs Per Hour			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G	Short Tons Per Hour	D	Cubic Yards	Y
Gallons Per Hour	H	Metric Tons Per Hour	M	Cubic Meters	C
Gallons Per Day	D	Short Tons Per Day	N	Acres	A
Liters	L	Metric Tons Per Day	S	Acres	A
Liters Per Hour	H	Pounds Per Hour	J	Hectares	H
Liters Per Day	D	Kilograms Per Hour	K	Hectares	H
				BTUs Per Hour	B

CONFIDENTIAL - SECURITY INFORMATION

EXAMPLE FOR COMPLETING ITEM XII (shown in line number 4-1 below): A facility has a storage tank which can hold 50,000 gallons.

Line	A. Process Number	1. Amount (Pounds)	2. Unit of Measure	C. Process Total Number of Units	D. Description of Process
1	51011	128.000	G	002	
2	51012	127.950	G	117	
3	51011	127.900	G	007	
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EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

819 1 - 31 - 0000 - 0101

## IV. Description of Hazardous Wastes

- A. **EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic constituents of those hazardous wastes.
- B. **ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic constituent entered in column A estimate the total annual quantity of all the non-listed wastes that will be handled which possess that characteristic or constituent.
- C. **UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

\* Facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

## D. PROCESSES

## 1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item X-1, on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic constituent entered in column A, select the code(s) from the list of process codes contained in item X-1, on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic constituent.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of item XIV-D(1).
3. Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).

## 2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D-2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA hazardous waste number shall be described on the form as follows:

1. Select one of the EPA hazardous waste numbers and enter it in column A. On the section line between columns B, C and D by entering the total annual quantity of the waste and describing all the processes to be used to treat, store, and dispose of the waste.
2. In column A of the next line enter the other EPA hazardous waste number that can be used to describe the waste. In column D(1) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA hazardous waste number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in the numbers X-1, X-2, X-3, and X-4 below) - A facility with tank and drums of an estimated 900 pounds per year of chrome sludge from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-hazardous wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS	
				(1) PROCESS CODES (Enter code)	(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K10154	900	P	T013 0180	
X-2	D10103	200	P	T013 0180	
X-3	D-0101	100	P	T013 0180	
X-4	D10103				Included with Above

Secondary ID Number (enter from page 1)

## IV. Description of Hazardous Wastes (continued)

Line Number	EPA Hazardous Waste No. (Enter code)	2. ESTIMATED ANNUAL QUANTITY OF WASTE	3. UNIT OF MEASURE (Enter code)	D. PROCESSES		
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If a code is not entered in (1))
1	D 01 01 1	15,000	T	S 10 11	S 10 12	T 10 11
2	D 01 01 2	15,000	T	S 10 11	S 10 12	T 10 11
3	D 01 01 3	500	T	S 10 11	S 10 12	T 10 11
4	D 01 01 4	2,000	T	S 10 11	S 10 12	T 10 11
5	D 01 01 5	2,000	T	S 10 11	S 10 12	T 10 11
6	D 01 01 6	2,000	T	S 10 11	S 10 12	T 10 11
7	D 01 01 7	2,000	T	S 10 11	S 10 12	T 10 11
8	D 01 01 8	2,000	T	S 10 11	S 10 12	T 10 11
9	D 01 01 9	2,000	T	S 10 11	S 10 12	T 10 11
10	D 01 01 10	2,000	T	S 10 11	S 10 12	T 10 11
111	D 01 11 1	2,000	T	S 10 11	S 10 12	T 10 11
112	D 01 11 2	500	T	S 10 11	S 10 12	T 10 11
113	D 01 11 3	500	T	S 10 11	S 10 12	T 10 11
114	D 01 11 4	500	T	S 10 11	S 10 12	T 10 11
115	D 01 11 5	500	T	S 10 11	S 10 12	T 10 11
116	D 01 11 6	500	T	S 10 11	S 10 12	T 10 11
117	D 01 11 7	500	T	S 10 11	S 10 12	T 10 11
118	D 01 11 8	2,000	T	S 10 11	S 10 12	T 10 11
119	D 01 11 9	2,000	T	S 10 11	S 10 12	T 10 11
210	D 01 21 0	500	T	S 10 11	S 10 12	T 10 11
211	D 01 21 1	2,000	T	S 10 11	S 10 12	T 10 11
212	D 01 21 2	500	T	S 10 11	S 10 12	T 10 11
213	D 01 21 3	1,000	T	S 10 11	S 10 12	T 10 11
214	D 01 21 4	1,000	T	S 10 11	S 10 12	T 10 11
215	D 01 21 5	1,000	T	S 10 11	S 10 12	T 10 11
216	D 01 21 6	1,000	T	S 10 11	S 10 12	T 10 11
217	D 01 21 7	1,000	T	S 10 11	S 10 12	T 10 11
218	D 01 21 8	2,000	T	S 10 11	S 10 12	T 10 11
219	D 01 21 9	1,000	T	S 10 11	S 10 12	T 10 11
310	D 01 31 0	500	T	S 10 11	S 10 12	T 10 11
311	D 01 31 1	500	T	S 10 11	S 10 12	T 10 11
312	D 01 31 2	500	T	S 10 11	S 10 12	T 10 11
313	D 01 31 3	500	T	S 10 11	S 10 12	T 10 11

SECURITY TO NUMBER (ENTER FROM PAGE 1)

## IV. Description of hazardous wastes (continued)

LINE NUMBER	EPA HAZARDOUS WASTE NO. (Enter code)	ESTIMATED ANNUAL QUANTITY OF WASTE	MEASURE (Enter code)	D. PROCESSES		
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If a code is not entered in (1))
1	D 01314	.000	-	S1011	S1012	T1011
2	D 01315	.000	-	S1011	S1012	T1011
3	D 01316	.000	-	S1011	S1012	T1011
4	D 01317	.000	-	S1011	S1012	T1011
5	D 01318	.000	-	S1011	S1012	T1011
6	D 01319	.000	-	S1011	S1012	T1011
7	D 01410	.000	-	S1011	S1012	T1011
8	D 01411	.000	-	S1011	S1012	T1011
9	D 01412	.000	-	S1011	S1012	T1011
10	D 01413	.000	-	S1011	S1012	T1011
11	F 01011	.000	-	S1011	S1012	T1011
12	F 01012	.000	-	S1011	S1012	T1011
13	F 01013	.000	-	S1011	S1012	T1011
14	F 01014	.000	-	S1011	S1012	T1011
15	F 01015	.000	-	S1011	S1012	T1011
16	F 01016	.000	-	S1011	S1012	T1011
17	F 01017	.000	-	S1011	S1012	T1011
18	F 01018	.000	-	S1011	S1012	T1011
19	F 01019	.000	-	S1011	S1012	T1011
20	F 01110	.000	-	S1011	S1012	T1011
21	F 01111	.000	-	S1011	S1012	T1011
22	F 01112	.000	-	S1011	S1012	T1011
23	F 01119	.000	-	S1011	S1012	T1011
24	F 01214	.000	-	S1011	S1012	T1011
25	F 01312	.000	-	S1011	S1012	T1011
26	F 01314	.000	-	S1011	S1012	T1011
27	F 01315	.000	-	S1011	S1012	T1011
28	F 01317	.000	-	S1011	S1012	T1011
29	F 01318	.000	-	S1011	S1012	T1011
30	F 01319	.000	-	S1011	S1012	T1011
31	K 01011	.000	-	S1011	S1012	T1011
32	K 01012	.000	-	S1011	S1012	T1011
33	K 01013	.000	-	S1011	S1012	T1011

EPA LC Number enter from page 11

Secondary ID Number enter from page 11

EPA LC Number enter from page 11

Secondary ID Number enter from page 11

## IV. Description of Hazardous Wastes (Continued)

Line Number	EPA Hazardous Waste No. (Enter Code)	Estimated Annual Quantity of Waste	Unit of Measure (Enter Code)	D. PROCESSES		
				(1) Process Codes (Enter Code)		(2) Process Description (If a code is not assigned by DRI)
1	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
2	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
3	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
4	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
5	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
6	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
7	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
8	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
9	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
10	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
11	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
12	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
13	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
14	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
15	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
16	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
17	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
18	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
19	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
20	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
21	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
22	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
23	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
24	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
25	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
26	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
27	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
28	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
29	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
30	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
31	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
32	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11
33	K 0 0 1	500	T	S 10 11	S 10 12	T 10 11

EPA ID Number (enter from page 1)

Secondary ID Number (enter from page 1)

## XIV. Description of Hazardous Waste (continued)

Line Number	EPA Hazardous Waste No. (Enter code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter code)	D. PROCESSES		
				1) PROCESS CODES (Enter code)		2) PROCESS DESCRIPTION (Is code or not entered in (1))
	K 0 9 1 4	500	T	S 10 1 1	S 10 1 2	T 10 1 1
2	K 0 9 1 5	500	T	S 10 1 1	S 10 1 2	T 10 1 1
3	K 0 7 1 1	500	T	S 10 1 1	S 10 1 2	T 10 1 1
4	K 0 7 1 3	500	T	S 10 1 1	S 10 1 2	T 10 1 1
5	K 0 0 1 6	500	T	S 10 1 1	S 10 1 2	T 10 1 1
6	K 0 3 1 1	500	T	S 10 1 1	S 10 1 2	T 10 1 1
7	K 0 3 1 2	500	T	S 10 1 1	S 10 1 2	T 10 1 1
8	K 0 3 1 3	500	T	S 10 1 1	S 10 1 2	T 10 1 1
9	K 0 3 1 4	500	T	S 10 1 1	S 10 1 2	T 10 1 1
10	K 0 3 1 5	500	T	S 10 1 1	S 10 1 2	T 10 1 1
11	K 0 3 1 6	500	T	S 10 1 1	S 10 1 2	T 10 1 1
12	K 0 3 1 7	500	T	S 10 1 1	S 10 1 2	T 10 1 1
13	K 0 3 1 8	500	T	S 10 1 1	S 10 1 2	T 10 1 1
14	K 0 3 1 9	500	T	S 10 1 1	S 10 1 2	T 10 1 1
15	K 0 3 1 0	500	T	S 10 1 1	S 10 1 2	T 10 1 1
16	K 0 4 1 0	500	T	S 10 1 1	S 10 1 2	T 10 1 1
17	K 0 4 1 1	500	T	S 10 1 1	S 10 1 2	T 10 1 1
18	K 0 4 1 8	500	T	S 10 1 1	S 10 1 2	T 10 1 1
19	K 0 4 1 9	500	T	S 10 1 1	S 10 1 2	T 10 1 1
20	K 0 4 1 3	500	T	S 10 1 1	S 10 1 2	T 10 1 1
21	K 0 9 1 4	500	T	S 10 1 1	S 10 1 2	T 10 1 1
212	K 0 14 8	10,000	T	S 10 1 1	S 10 1 2	T 10 1 1
213	K 0 14 9	10,000	T	S 10 1 1	S 10 1 2	T 10 1 1
214	K 0 5 10	10,000	T	S 10 1 1	S 10 1 2	T 10 1 1
215	K 0 15 11	10,000	T	S 10 1 1	S 10 1 2	T 10 1 1
216	K 0 15 12	10,000	T	S 10 1 1	S 10 1 2	T 10 1 1
217	K 0 16 11	500	T	S 10 1 1	S 10 1 2	T 10 1 1
218	K 0 6 12	500	T	S 10 1 1	S 10 1 2	T 10 1 1
219	K 0 16 19	500	T	S 10 1 1	S 10 1 2	T 10 1 1
310	K 0 0 10	500	T	S 10 1 1	S 10 1 2	T 10 1 1
311	K 0 18 14	500	T	S 10 1 1	S 10 1 2	T 10 1 1
312	K 0 0 11	500	T	S 10 1 1	S 10 1 2	T 10 1 1
313	K 0 0 12	500	T	S 10 1 1	S 10 1 2	T 10 1 1



EPA ID Number (enter from page 1)

Secondary ID Number (enter from page 1)

9 9 1 - 0 1 - 0 1 0 1 0 1 1 1

## IV. Description of Hazardous Waste (continued)

Line Number	EPA Hazardous Waste No. (Enter Code)	ESTIMATED QUANTITY OF		MEASURE	Q. PROCESSES		
		ANNUAL QUANTITY OF WASTE	ENTER CODE		(1) PROCESS CODES (Enter Code)	(2) PROCESS DESCRIPTION (If a code is not entered in Q11)	
	K 8 16	500	-		S 10 11 S 10 12 T 10 11		
2	K 8 6 10	500	-		S 10 11 S 10 12 T 10 11		
3	K 8 18 17	500	-		S 10 11 S 10 12 T 10 11		
4	K 8 1 11	500	-		S 10 11 S 10 12 T 10 11		
5	K 8 1 12	500	-		S 10 11 S 10 12 T 10 11		
6	K 8 1 13	500	-		S 10 11 S 10 12 T 10 11		
7	K 8 1 14	500	-		S 10 11 S 10 12 T 10 11		
8	K 8 1 15	500	-		S 10 11 S 10 12 T 10 11		
9	K 8 1 16	500	-		S 10 11 S 10 12 T 10 11		
10	K 8 1 17	500	-		S 10 11 S 10 12 T 10 11		
11	K 8 10 17	500	-		S 10 11 S 10 12 T 10 11		
12	K 8 10 18	500	-		S 10 11 S 10 12 T 10 11		
13	K 8 10 19	500	-		S 10 11 S 10 12 T 10 11		
14	K 8 1 10	500	-		S 10 11 S 10 12 T 10 11		
15	K 8 4 11	500	-		S 10 11 S 10 12 T 10 11		
16	K 8 4 12	500	-		S 10 11 S 10 12 T 10 11		
17	K 8 4 13	500	-		S 10 11 S 10 12 T 10 11		
18	K 8 4 14	500	-		S 10 11 S 10 12 T 10 11		
19	K 8 4 15	500	-		S 10 11 S 10 12 T 10 11		
20	K 8 4 17	500	-		S 10 11 S 10 12 T 10 11		
21	K 8 1 1 18	500	-		S 10 11 S 10 12 T 10 11		
22	K 8 1 1 19	500	-		S 10 11 S 10 12 T 10 11		
23	K 8 1 5 10	500	-		S 10 11 S 10 12 T 10 11		
24	K 8 1 5 11	500	-		S 10 11 S 10 12 T 10 11		
25	P 0 0 11	500	-		S 10 11 S 10 12 T 10 11		
26	P 0 0 12	500	-		S 10 11 S 10 12 T 10 11		
27	P 0 0 13	500	-		S 10 11 S 10 12 T 10 11		
28	P 0 0 14	500	-		S 10 11 S 10 12 T 10 11		
29	P 0 0 15	500	-		S 10 11 S 10 12 T 10 11		
30	P 0 0 16	500	-		S 10 11 S 10 12 T 10 11		
31	P 0 0 17	500	-		S 10 11 S 10 12 T 10 11		
32	P 0 0 18	500	-		S 10 11 S 10 12 T 10 11		
33	P 0 0 19	500	-		S 10 11 S 10 12 T 10 11		

Secondary ID Number (enter from page 11)

## IV. Description of Hazardous Waste (continued)

Line Number	EPA HAZARDOUS WASTE NO.		ESTIMATED ANNUAL QUANTITY OF WASTE		UNIT OF MEASURE	D. PROCESSES		
	Enter code		Enter code			(1) PROCESS CODES (Enter code)	(2) PROCESS DESCRIPTION (if code is not entered at (1))	
1	P	0 1 0	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
2	P	0 1 1	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
3	P	0 1 2	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
4	P	0 1 3	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
5	P	0 1 4	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
6	P	0 1 5	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
7	P	0 1 6	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
8	P	0 1 7	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
9	P	0 1 8	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
10	P	0 1 9	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
11	P	0 2 1	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
12	P	0 2 2	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
13	P	0 2 3	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
14	P	0 2 4	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
15	P	0 2 5	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
16	P	0 2 6	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
17	P	0 2 7	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
18	P	0 2 8	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
19	P	0 2 9	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
20	P	0 3 0	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
21	P	0 3 1	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
22	P	0 3 2	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
23	P	0 3 3	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
24	P	0 3 4	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
25	P	0 3 5	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
26	P	0 3 6	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
27	P	0 3 7	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
28	P	0 3 8	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
29	P	0 3 9	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
30	P	0 4 0	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
31	P	0 4 1	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
32	P	0 4 2	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
33	P	0 4 3	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
34	P	0 4 4	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
35	P	0 4 5	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
36	P	0 4 6	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1
37	P	0 4 7	200	-	-	S 10 1 1	S 10 1 2	T 10 1 1

Secondary ID Number (Enter from page 1)

3 9 1 - 1 1 - 7 1 3 1 - 0 1 0 1 1 1

## IV. Description of Hazardous Wastes (continued)

Line Number	EPA Hazardous Waste No. (Enter code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter code)	PROCESS		
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If code is not entered in (1))
1	P 0 1 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
2	P 0 1 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
3	P 0 1 5 10	200	T	S 10 1 1	S 10 1 2	T 10 1 1
4	P 0 1 5 11	200	T	S 10 1 1	S 10 1 2	T 10 1 1
5	P 0 1 5 14	200	T	S 10 1 1	S 10 1 2	T 10 1 1
6	P 0 1 5 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1
7	P 0 1 5 18	200	T	S 10 1 1	S 10 1 2	T 10 1 1
8	P 0 1 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
9	P 0 0	200	T	S 10 1 1	S 10 1 2	T 10 1 1
10	P 0 1 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
111	P 0 1 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
112	P 0 1 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
113	P 0 1 6 16	200	T	S 10 1 1	S 10 1 2	T 10 1 1
114	P 0 1 6 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1
115	P 0 1 6 18	200	T	S 10 1 1	S 10 1 2	T 10 1 1
116	P 0 1 6 19	200	T	S 10 1 1	S 10 1 2	T 10 1 1
117	P 0 1 7 10	200	T	S 10 1 1	S 10 1 2	T 10 1 1
118	P 0 1 7 11	200	T	S 10 1 1	S 10 1 2	T 10 1 1
119	P 0 1 7 12	200	T	S 10 1 1	S 10 1 2	T 10 1 1
210	P 0 1 7 13	200	T	S 10 1 1	S 10 1 2	T 10 1 1
211	P 0 1 7 14	200	T	S 10 1 1	S 10 1 2	T 10 1 1
212	P 0 1 7 15	200	T	S 10 1 1	S 10 1 2	T 10 1 1
313	P 0 1 7 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1
314	P 0 1 8 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
315	P 0 1 8 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
316	P 0 1 8 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
317	P 0 1 8 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1
318	P 0 1 8 18	200	T	S 10 1 1	S 10 1 2	T 10 1 1
319	P 0 1 8 19	200	T	S 10 1 1	S 10 1 2	T 10 1 1
310	P 0 1 9 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
311	P 0 1 9 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
312	P 0 1 9 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
313	P 0 1 9 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1

SECONDARY ID NUMBER (ENTER FROM PAGE 1)

291 - - - - - 31 01 22

Line Number	EPA HAZARDOUS WASTE NO.		ESTIMATED ANNUAL QUANTITY OF WASTE		UNIT OF MEASURE (Enter code)	G. PROCESSES		
	Enter code		QUANTITY OF WASTE			1) PROCESS CODES (Enter code)		2) PROCESS DESCRIPTION (If 8 code is not entered in G(1))
1	P	9	8	20	-	S 10 11	S 10 12	T 10 11
2	P	9	9	200	-	S 10 11	S 10 12	T 10 11
3	P	10	11	200	-	S 10 11	S 10 12	T 10 11
4	P	10	12	200	-	S 10 11	S 10 12	T 10 11
5	P	10	13	200	-	S 10 11	S 10 12	T 10 11
6	P	10	14	200	-	S 10 11	S 10 12	T 10 11
7	P	10	15	200	-	S 10 11	S 10 12	T 10 11
8	P	10	16	200	-	S 10 11	S 10 12	T 10 11
9	P	10	17	200	-	S 10 11	S 10 12	T 10 11
10	P	10	18	200	-	S 10 11	S 10 12	T 10 11
11	P	10	19	200	-	S 10 11	S 10 12	T 10 11
111	P	10	20	200	-	S 10 11	S 10 12	T 10 11
112	P	10	21	200	-	S 10 11	S 10 12	T 10 11
113	P	10	22	200	-	S 10 11	S 10 12	T 10 11
114	P	10	23	200	-	S 10 11	S 10 12	T 10 11
115	P	10	24	200	-	S 10 11	S 10 12	T 10 11
116	P	10	25	200	-	S 10 11	S 10 12	T 10 11
117	P	10	26	200	-	S 10 11	S 10 12	T 10 11
118	P	10	27	200	-	S 10 11	S 10 12	T 10 11
119	P	10	28	200	-	S 10 11	S 10 12	T 10 11
210	P	10	29	200	-	S 10 11	S 10 12	T 10 11
211	P	10	30	200	-	S 10 11	S 10 12	T 10 11
212	P	10	31	200	-	S 10 11	S 10 12	T 10 11
213	P	10	32	200	-	S 10 11	S 10 12	T 10 11
214	P	10	33	200	-	S 10 11	S 10 12	T 10 11
215	U	10	34	200	-	S 10 11	S 10 12	T 10 11
216	U	10	35	200	-	S 10 11	S 10 12	T 10 11
217	U	10	36	200	-	S 10 11	S 10 12	T 10 11
218	U	10	37	200	-	S 10 11	S 10 12	T 10 11
219	U	10	38	200	-	S 10 11	S 10 12	T 10 11
310	U	10	39	200	-	S 10 11	S 10 12	T 10 11
311	U	10	40	200	-	S 10 11	S 10 12	T 10 11
312	U	10	41	200	-	S 10 11	S 10 12	T 10 11
313	U	10	42	200	-	S 10 11	S 10 12	T 10 11

WASTE NUMBER (ENTER FROM PAGE 1)

WASTE NUMBER (ENTER FROM PAGE 1)

## IV. Description of Hazardous Waste (Continued)

Line Number	EPA Hazardous Waste No. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	2. PROCESSES		
				(1) PROCESS CODES (Enter Code)		(2) PROCESS DESCRIPTION (If Code is not sufficient in (1))
1	U 0 11 1	200	T	S 10 11	S 10 12	T 10 11
2	U 0 11 1	200	T	S 10 11	S 10 12	T 10 11
3	U 0 11 2	200	T	S 10 11	S 10 12	T 10 11
4	U 0 11 4	200	T	S 10 11	S 10 12	T 10 11
5	U 0 11 5	200	T	S 10 11	S 10 12	T 10 11
6	U 0 11 6	200	T	S 10 11	S 10 12	T 10 11
7	U 0 11 7	200	T	S 10 11	S 10 12	T 10 11
8	U 0 11 8	200	T	S 10 11	S 10 12	T 10 11
9	U 0 11 9	200	T	S 10 11	S 10 12	T 10 11
10	U 0 12 1	200	T	S 10 11	S 10 12	T 10 11
11	U 0 12 1	200	T	S 10 11	S 10 12	T 10 11
12	U 0 12 2	200	T	S 10 11	S 10 12	T 10 11
13	U 0 12 3	200	T	S 10 11	S 10 12	T 10 11
14	U 0 12 4	200	T	S 10 11	S 10 12	T 10 11
15	U 0 12 5	200	T	S 10 11	S 10 12	T 10 11
16	U 0 12 6	200	T	S 10 11	S 10 12	T 10 11
17	U 0 12 7	200	T	S 10 11	S 10 12	T 10 11
18	U 0 12 8	200	T	S 10 11	S 10 12	T 10 11
19	U 0 12 9	200	T	S 10 11	S 10 12	T 10 11
20	U 0 13 10	200	T	S 10 11	S 10 12	T 10 11
21	U 0 13 1	200	T	S 10 11	S 10 12	T 10 11
22	U 0 13 2	200	T	S 10 11	S 10 12	T 10 11
23	U 0 13 3	200	T	S 10 11	S 10 12	T 10 11
24	U 0 13 4	200	T	S 10 11	S 10 12	T 10 11
25	U 0 13 5	200	T	S 10 11	S 10 12	T 10 11
26	U 0 13 6	200	T	S 10 11	S 10 12	T 10 11
27	U 0 13 7	200	T	S 10 11	S 10 12	T 10 11
28	U 0 13 8	200	T	S 10 11	S 10 12	T 10 11
29	U 0 13 9	200	T	S 10 11	S 10 12	T 10 11
30	U 0 14 1	200	T	S 10 11	S 10 12	T 10 11
31	U 0 14 2	200	T	S 10 11	S 10 12	T 10 11
32	U 0 14 3	200	T	S 10 11	S 10 12	T 10 11
33	U 0 14 4	200	T	S 10 11	S 10 12	T 10 11

## IV. Description of Hazardous Waste Management

LINE NUMBER	A. EPA HAZARDOUS WASTE NO. (Enter code)		B. ESTIMATED C. UNIT OF ANNUAL QUANTITY OF WASTE (Enter code)		C. PROCESSES		
					(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION: (If a code is not entered in Q(1))
1	U	0145	200	T	S1011	S1012	T1011
12	U	0146	200	T	S1011	S1012	T1011
13	U	0147	200	T	S1011	S1012	T1011
14	U	0148	200	T	S1011	S1012	T1011
15	U	0149	200	T	S1011	S1012	T1011
16	U	0150	200	T	S1011	S1012	T1011
17	U	0151	200	T	S1011	S1012	T1011
18	U	0152	200	T	S1011	S1012	T1011
19	U	0153	200	T	S1011	S1012	T1011
110	U	0155	200	T	S1011	S1012	T1011
111	U	0156	200	T	S1011	S1012	T1011
112	U	0157	200	T	S1011	S1012	T1011
113	U	0158	200	T	S1011	S1012	T1011
114	U	0159	200	T	S1011	S1012	T1011
115	U	0160	200	T	S1011	S1012	T1011
116	U	0161	200	T	S1011	S1012	T1011
117	U	0162	200	T	S1011	S1012	T1011
118	U	0163	200	T	S1011	S1012	T1011
119	U	0164	200	T	S1011	S1012	T1011
210	U	0166	200	T	S1011	S1012	T1011
211	U	0167	200	T	S1011	S1012	T1011
212	U	0168	200	T	S1011	S1012	T1011
213	U	0169	200	T	S1011	S1012	T1011
214	U	0170	200	T	S1011	S1012	T1011
215	U	0171	200	T	S1011	S1012	T1011
216	U	0172	200	T	S1011	S1012	T1011
217	U	0173	200	T	S1011	S1012	T1011
218	U	0174	200	T	S1011	S1012	T1011
219	U	0175	200	T	S1011	S1012	T1011
310	U	0176	200	T	S1011	S1012	T1011
311	U	0177	200	T	S1011	S1012	T1011
312	U	0178	200	T	S1011	S1012	T1011
313	U	0179	200	T	S1011	S1012	T1011

## IV. Description of Hazardous Wastes (continued)

Line Number	EPA Hazardous Waste No. (Enter code)	3. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES		
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION: If a code is not entered in (1)
1	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
2	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
3	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
4	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
5	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
6	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
7	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
8	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
9	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
10	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
11	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
12	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
13	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
14	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
15	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
16	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
17	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
18	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
19	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
20	U 0 9 0 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
21	U 1 10 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
22	U 1 10 2	200	-	S 10 1 1	S 10 1 2	T 10 1 1
23	U 1 10 3	200	-	S 10 1 1	S 10 1 2	T 10 1 1
24	U 1 10 5	200	-	S 10 1 1	S 10 1 2	T 10 1 1
25	U 1 10 6	200	-	S 10 1 1	S 10 1 2	T 10 1 1
26	U 1 10 7	200	-	S 10 1 1	S 10 1 2	T 10 1 1
27	U 1 10 8	200	-	S 10 1 1	S 10 1 2	T 10 1 1
28	U 1 10 9	200	-	S 10 1 1	S 10 1 2	T 10 1 1
29	U 1 11 10	200	-	S 10 1 1	S 10 1 2	T 10 1 1
30	U 1 11 1	200	-	S 10 1 1	S 10 1 2	T 10 1 1
31	U 1 11 2	200	-	S 10 1 1	S 10 1 2	T 10 1 1
32	U 1 11 3	200	-	S 10 1 1	S 10 1 2	T 10 1 1
33	U 1 11 4	200	-	S 10 1 1	S 10 1 2	T 10 1 1

## IV. Description of Hazardous Waste (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)		B. ESTIMATED ANNUAL QUANTITY OF WASTE		C. UNIT OF MEASURE (Enter code)	D. PROCESSES		
						(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION: (If a code is not entered in (1))
1	U	1	5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
2	U	1	6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
3	U	1	7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
4	U	1	8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
5	U	1	9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
6	U	1	0	200	T	S 10 1 1	S 10 1 2	T 10 1 1
7	U	1	1	200	T	S 10 1 1	S 10 1 2	T 10 1 1
8	U	1	2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
9	U	1	3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
10	U	1	4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
11	U	1	5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
12	U	1	6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
13	U	1	7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
14	U	1	8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
15	U	1	9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
16	U	1	0	200	T	S 10 1 1	S 10 1 2	T 10 1 1
17	U	1	1	200	T	S 10 1 1	S 10 1 2	T 10 1 1
18	U	1	2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
19	U	1	3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
20	U	1	4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
21	U	1	5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
22	U	1	6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
23	U	1	7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
24	U	1	8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
25	U	1	9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
26	U	1	0	200	T	S 10 1 1	S 10 1 2	T 10 1 1
27	U	1	1	200	T	S 10 1 1	S 10 1 2	T 10 1 1
28	U	1	2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
29	U	1	3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
30	U	1	4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
31	U	1	5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
32	U	1	6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
33	U	1	7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
34	U	1	8	200	T	S 10 1 1	S 10 1 2	T 10 1 1



DO NOT WRITE IN THESE SPACES

91-11-11-11-11-11-11-11-11-11

## IV. Description of HAZARDOUS WASTE (Continued)

LINE NUMBER	EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE (LBS)	UNIT OF MEASURE (Enter Code)	PROCESS		
				(1) PROCESS CODES (Enter Code)		(2) PROCESS DESCRIPTION (If Code is not entered in (1))
1	U 1 1 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
2	U 1 2 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
3	U 1 3 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
4	U 1 4 10	200	T	S 10 1 1	S 10 1 2	T 10 1 1
5	U 1 5 11	200	T	S 10 1 1	S 10 1 2	T 10 1 1
6	U 1 5 12	200	T	S 10 1 1	S 10 1 2	T 10 1 1
7	U 1 5 13	200	T	S 10 1 1	S 10 1 2	T 10 1 1
8	U 1 5 14	200	T	S 10 1 1	S 10 1 2	T 10 1 1
9	U 1 5 15	200	T	S 10 1 1	S 10 1 2	T 10 1 1
10	U 1 5 16	200	T	S 10 1 1	S 10 1 2	T 10 1 1
11	U 1 5 17	200	T	S 10 1 1	S 10 1 2	T 10 1 1
12	U 1 5 18	200	T	S 10 1 1	S 10 1 2	T 10 1 1
13	U 1 5 19	200	T	S 10 1 1	S 10 1 2	T 10 1 1
14	U 1 6 1	200	T	S 10 1 1	S 10 1 2	T 10 1 1
15	U 1 6 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
16	U 1 6 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
17	U 1 6 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
18	U 1 6 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
19	U 1 6 6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
20	U 1 6 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
21	U 1 6 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
22	U 1 6 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
23	U 1 7 0	200	T	S 10 1 1	S 10 1 2	T 10 1 1
24	U 1 7 1	200	T	S 10 1 1	S 10 1 2	T 10 1 1
25	U 1 7 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1
26	U 1 7 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1
27	U 1 7 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1
28	U 1 7 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1
29	U 1 7 6	200	T	S 10 1 1	S 10 1 2	T 10 1 1
30	U 1 7 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1
31	U 1 7 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1
32	U 1 7 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1
33	U 1 8 10	200	T	S 10 1 1	S 10 1 2	T 10 1 1

## XIV. Description of Hazardous Waste (continued)

Line Number	EPA Hazardous Waste No. (Enter code)	Estimated Quantity of Annual Waste	Unit of Measure (Enter code)	Processes		
				(1) Process Codes (Enter code)		(2) Process Description: (If a code is not entered in (1))
1	U 1 8 1	200	T	S 10 11	S 10 12	T 10 11
2	U 1 8 2	200	T	S 10 11	S 10 12	T 10 11
3	U 1 8 3	200	T	S 10 11	S 10 12	T 10 11
4	U 1 8 4	200	T	S 10 11	S 10 12	T 10 11
5	U 1 8 5	200	T	S 10 11	S 10 12	T 10 11
6	U 1 8 6	200	T	S 10 11	S 10 12	T 10 11
7	U 1 8 7	200	T	S 10 11	S 10 12	T 10 11
8	U 1 8 8	200	T	S 10 11	S 10 12	T 10 11
9	U 1 8 9	200	T	S 10 11	S 10 12	T 10 11
10	U 1 9 0	200	T	S 10 11	S 10 12	T 10 11
11	U 1 9 1	200	T	S 10 11	S 10 12	T 10 11
12	U 1 9 2	200	T	S 10 11	S 10 12	T 10 11
13	U 1 9 3	200	T	S 10 11	S 10 12	T 10 11
14	U 1 9 4	200	T	S 10 11	S 10 12	T 10 11
15	U 1 9 6	200	T	S 10 11	S 10 12	T 10 11
16	U 1 9 7	200	T	S 10 11	S 10 12	T 10 11
17	U 2 0 0	200	T	S 10 11	S 10 12	T 10 11
18	U 2 0 1	200	T	S 10 11	S 10 12	T 10 11
19	U 2 0 2	200	T	S 10 11	S 10 12	T 10 11
20	U 2 0 3	200	T	S 10 11	S 10 12	T 10 11
21	U 2 0 4	200	T	S 10 11	S 10 12	T 10 11
22	U 2 0 5	200	T	S 10 11	S 10 12	T 10 11
23	U 2 0 6	200	T	S 10 11	S 10 12	T 10 11
24	U 2 0 7	200	T	S 10 11	S 10 12	T 10 11
25	U 2 0 8	200	T	S 10 11	S 10 12	T 10 11
26	U 2 0 9	200	T	S 10 11	S 10 12	T 10 11
27	U 2 1 0	200	T	S 10 11	S 10 12	T 10 11
28	U 2 1 1	200	T	S 10 11	S 10 12	T 10 11
29	U 2 1 3	200	T	S 10 11	S 10 12	T 10 11
30	U 2 1 4	200	T	S 10 11	S 10 12	T 10 11
31	U 2 1 5	200	T	S 10 11	S 10 12	T 10 11
32	U 2 1 6	200	T	S 10 11	S 10 12	T 10 11
33	U 2 1 7	200	T	S 10 11	S 10 12	T 10 11

DOCUMENT ID NUMBER (ENTER FROM PAGE 1)

91-31-1151-0101

## XIV. Description of hazardous wastes (continued)

Line Number	EPA HAZARDOUS WASTE NO. (Enter code)	ESTIMATED C. UNIT OF 1 ANNUAL QUANTITY OF WASTE	MEASURE (Enter code)	D. PROCESSES			
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If 8 code is not entered in Q1)	
1	U 2 1 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
2	U 2 1 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
3	U 2 2 0	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
4	U 2 2 1	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
5	U 2 2 2	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
6	U 2 2 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
7	U 2 2 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
8	U 2 2 6	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
9	U 2 2 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
10	U 2 2 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
11	U 2 3 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
12	U 2 3 5	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
13	U 2 3 6	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
14	U 2 3 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
15	U 2 3 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
16	U 2 3 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
17	U 2 4 0	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
18	U 2 4 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
19	U 2 4 4	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
20	U 2 4 6	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
21	U 2 4 7	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
22	U 2 4 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
23	U 2 4 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
24	U 3 2 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
25	U 3 5 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
26	U 3 2 8	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
27	U 3 5 3	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
28	U 3 5 9	200	T	S 10 1 1	S 10 1 2	T 10 1 1	
29							
30							
31							
32							
33							

EPA FORM 350-23 (Rev. 11-30-93) PREVIOUS EDITIONS ARE OBSOLETE

SECONDARY ID NUMBER (ENTER FROM PAGE 1)

2 9 1 - - 3 1 - - 7 5 1 - - 0 1 1

## XIV. Description of Hazardous Waste (Continued)

Line Number	EPA Hazardous Waste No. (Enter Code)	3. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter Code)	D. PROCESSES		
				(1) PROCESS CODES (Enter Code)		(2) PROCESS DESCRIPTION (If a code is not entered in (1))
1	U 2 1 1 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
2	U 2 1 1 9	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
3	U 2 2 0	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
4	U 2 2 1	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
5	U 2 2 2	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
6	U 2 2 3	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
7	U 2 2 5	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
8	U 2 2 6	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
9	U 2 2 7	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
10	U 2 2 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
11	U 2 3 4	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
12	U 2 3 5	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
13	U 2 3 6	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
14	U 2 3 7	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
15	U 2 3 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
16	U 2 3 9	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
17	U 2 4 0	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
18	U 2 4 3	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
19	U 2 4 4	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
20	U 2 4 6	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
21	U 2 4 7	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
22	U 2 4 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
23	U 2 4 9	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
24	U 3 2 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
25	U 3 5 3	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
26	U 3 2 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
27	U 3 5 3	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
28	U 3 5 9	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
29	K 1 5 6	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
30	K 1 5 7	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
31	K 1 5 8	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
32	K 1 5 9	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1
33	K 1 6 0	200	T	S 1 0 1 1	S 1 0 1 2	T 1 0 1 1

Secondary ID Number (Enter from page 1)

## XIV. Description of hazardous wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)		B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES		
					(1) PROCESS CODES (Enter code)	(2) PROCESS DESCRIPTION (If a code is not entered in D(1))	
1	K	1 6 1	200	T	S 10 1	S 0 2	T 0 1
2	P	1 2 7	200	T	S 0 1	S 0 2	T 0 1
3	P	1 2 8	200	T	S 0 1	S 0 2	T 0 1
4	P	1 8 5	200	T	S 0 1	S 0 2	T 0 1
5	P	1 8 8	200	T	S 0 1	S 0 2	T 0 1
6	P	1 8 9	200	T	S 0 1	S 0 2	T 0 1
7	P	1 9 0	200	T	S 10 1	S 10 2	T 10 1
8	P	1 9 1	200	T	S 10 1	S 10 2	T 10 1
9	P	- 9 2	200	T	S 10 1	S 10 2	T 10 1
10	P	1 9 14	200	T	S 10 1	S 10 2	T 10 1
11	P	1 9 16	200	T	S 10 1	S 10 2	T 10 1
12	P	1 9 17	200	T	S 10 1	S 10 2	T 0 1
13	P	1 9 18	200	T	S 10 1	S 10 2	T 0 1
14	P	1 9 19	200	T	S 0 1	S 0 2	T 0 1
15	P	2 0 1	200	T	S 0 1	S 0 2	T 0 1
16	P	2 0 2	200	T	S 0 1	S 0 2	T 0 1
17	P	2 0 3	200	T	S 0 1	S 0 2	T 0 1
18	P	2 0 4	200	T	S 0 1	S 0 2	T 0 1
19	P	2 0 5	200	T	S 10 1	S 10 2	T 0 1
20	U	2 7 1	200	T	S 10 1	S 10 2	T 0 1
21	U	2 7 7	200	T	S 0 1	S 0 2	T 0 1
22	U	2 7 8	200	T	S 0 1	S 0 2	T 0 1
23	U	2 7 9	200	T	S 0 1	S 0 2	T 0 1
24	U	2 8 0	200	T	S 0 1	S 0 2	T 0 1
25	U	3 6 4	200	T	S 0 1	S 0 2	T 0 1
26	U	3 6 5	200	T	S 0 1	S 0 2	T 0 1
27	U	3 6 6	200	T	S 0 1	S 0 2	T 0 1
28	U	3 6 7	200	T	S 0 1	S 0 2	T 0 1
29	U	3 7 2	200	T	S 10 1	S 10 2	T 10 1
30	U	3 7 3	200	T	S 0 1	S 0 2	T 0 1
31	U	3 7 5	200	T	S 0 1	S 0 2	T 0 1
32	U	3 7 6	200	T	S 10 1	S 0 2	T 0 1
33	U	3 7 7	200	T	S 10 1	S 10 2	T 10 1

Secondary ID Number (Enter from page 1)

## XIV. Description of hazardous wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES		
				(1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If code is not entered in (1))
1	U 3 7 8	200	T	S 10 1	S 10 2	T 0 1
2	U 3 7 9	200	T	S 10 1	S 10 2	T 0 1
3	U 3 8 1	200	T	S 10 1	S 10 2	T 0 1
4	U 3 8 2	200	T	S 10 1	S 10 2	T 0 1
5	U 3 8 3	200	T	S 10 1	S 10 2	T 0 1
6	U 3 8 4	200	T	S 10 1	S 10 2	T 0 1
7	U 3 8 5	200	T	S 10 1	S 10 2	T 0 1
8	U 3 8 6	200	T	S 10 1	S 10 2	T 0 1
9	U 3 8 7	200	T	S 10 1	S 10 2	T 0 1
10	U 3 8 9	200	T	S 10 1	S 10 2	T 0 1
11	U 3 9 0	200	T	S 10 1	S 10 2	T 0 1
12	U 3 9 1	200	T	S 10 1	S 10 2	T 0 1
13	U 3 9 2	200	T	S 10 1	S 10 2	T 0 1
14	U 3 9 3	200	T	S 10 1	S 10 2	T 0 1
15	U 3 9 4	200	T	S 10 1	S 10 2	T 0 1
16	U 3 9 5	200	T	S 10 1	S 10 2	T 0 1
17	U 3 9 6	200	T	S 10 1	S 10 2	T 0 1
18	U 4 0 0	200	T	S 10 1	S 10 2	T 0 1
19	U 4 0 1	200	T	S 10 1	S 10 2	T 0 1
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## XV. Mao

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

## XVI. Facility Drawing

**All existing facilities must include a scale drawing of the facility (see instructions for more detail).**

## XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures, existing storage, treatment and disposal areas, and sites of future storage, treatment or disposal areas (see instructions for more detail).

### XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner signature \_\_\_\_\_

Date Signed \_\_\_\_\_

5/29/96

Name and Official Title (Type of office)

Dave McConnell, President, Oil & Solvent Process Company

**Order Signature**

### Only 50¢

Name and Official Title (Type or print)

Operator Signature \_\_\_\_\_

Date Signed \_\_\_\_\_

5/29/96

NAME AND OFFICE: NAME (Type of press)

Dave McConnell, President, Oil & Solvent Process Company

Operator signature

Date Signed \_\_\_\_\_

NAME AND OFFICE: THE IT YOU OR OTHER

## XIX. COMMENTS

~~Topographic Map - See Figure II-1 and II-1a of the Operation Plan~~

Facility Drawing - See Figure 2 and II-3 of Operation Plan

Photographs - See "Photographic Essay" Section of the Operation Plan

**Note:** Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

# US Ecology, Inc.

*An American Ecology Company*

## FAX COVER SHEET

Date: 3.9.99

Number of Pages: 9  
(including cover sheet)

TO:

*Eric*

FROM: Dana Sullivan  
Customer Service Manager  
Beatty Operations

US Ecology  
P.O. Box 578  
Beatty, NV 89003  
(775) 553-2203 ext. 109  
(800) 239-3943  
(775) 553-2125 FAX

Remarks: ☐ For your review ☐ Per your request ☐ Urgent ☐ Please comment

*Copy of permit you requested*

*Any questions, please call me.*

*Thanks,*

*Dana*



*US ECOLOGY - BEATTY, NEVADA  
AUDIT PACKAGE*

**FEDERAL PART B APPROVAL**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

Name of Permittee: U.S. Ecology

EPA ID Number: NVTE30010000

Facility Location: Nye County, Nevada

Authorized Activities:

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 USC §6901 et. seq.), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations) Federal permit conditions of the RCRA Permit are issued to U.S. Ecology (herein called the Permittee) located in Nye County, Nevada.

The RCRA Permit contains both the effective federal permit conditions (contained herein) and the effective state permit conditions (hereinafter called the state permit) issued by the State of Nevada pursuant to the RCRA program authorized under 40 CFR Part 271. When both these permit conditions and the state permit are effective, the Permittee has an effective RCRA Permit which authorizes the Permittee to conduct hazardous waste management activities as specified in the RCRA Permit.

Permit Approval

The State of Nevada has received final authorization pursuant to Section 3006 of RCRA (40 CFR regulations codified in Part 271) to administer the pre-HSWA RCRA hazardous waste program. Since the State of Nevada has not yet received authorization to administer the new hazardous waste program requirements of HSWA, additional permit conditions must be issued by the U.S. EPA, to address these new requirements.


These additional conditions are contained herein. The Permittee must comply with all conditions contained herein (including those in any attachments) and the applicable regulations contained in 40 CFR Parts 260, 261, 264, 266, 268, 270, and 124, and of Section 206, 212, and 224 of HSWA, which require corrective action for all releases of hazardous wastes or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit. Section 212 provides the authority to review and modify the permit at any time.

Permit No. NEV HW002

Page No. -2- of 2

These conditions are based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated May 27, 1987, and any subsequent amendments submitted January 11, 1988 (hereinafter referred to as the Application) are accurate. Non compliance by the Permittee with any conditions of this permit, including failure to submit relevant facts required by this permit, and misrepresentation of any relevant facts at any time, are causes for permit termination (40 CFR §270.43).

The Permittee must inform U.S. EPA of any deviation from or changes in the information in the application. The RCRA Permit is effective when both these permit conditions and the State permit are effective. The effective date of this permit is thirty (30) calendar days after the notice of decision has been received, and remain in effect for five years until the RCRA permit is revoked and reissued, or terminated (40 CFR §270.41 and §270.42 and §270.43) or continued in accordance with 40 CFR §270.41.

  
JEFF ZELVKSON, Director  
Toxics and Waste Management Division

6-17-88  
Date

*US ECOLOGY - BEATTY, NEVADA*  
*AUDIT PACKAGE*

**STATE PART B APPROVAL**

PETER G. MORROS, Director  
L.H. DODGION, Administrator  
(702) 687-4670  
TDD 687-4678  
Administration  
Mining Regulation and Reclamation  
Water Pollution Control  
Facsimile 687-5856

## STATE OF NEVADA

BOB MILLER  
Governor



Waste Management  
Corrective Actions  
Federal Facilities  
Facsimile 885-0868

Air Quality  
Water Quality Planning  
Facsimile 687-6396

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
333 W. Nye Lane, Room 138  
Carson City, Nevada 89706-0866

April 17, 1997

US ECOLOGY

APR 21 1997

BEATTY, NV

Mr. Zaki Naser  
Facility Manager  
US Ecology  
P.O. Box 578  
Beatty, NV 89003

RE: FINAL HAZARDOUS WASTE PERMIT FOR US ECOLOGY, BEATTY, NEVADA  
PERMIT NO. NEV HW0011, EPA ID #NVT330010000

Dear Mr. Naser:

Please find enclosed the final RCRA hazardous waste permit for hazardous waste treatment, storage and disposal at the US Ecology, Beatty Facility. This permit is effective April 9, 1997 through April 9, 2002.

If you have any questions, please contact me at (702) 687-4670, extension 3004.

Sincerely,

A handwritten signature in cursive script, reading "Jeffrey C. Denison".

Jeffrey C. Denison, P.E.  
RCRA Facilities Branch Supervisor  
Bureau of Waste Management

JCD:gf

Enclosure

cc: Mitch Kaplan, EPA IX (WST-5) w/ Enclosure

*US ECOLOGY - BEATTY, NEVADA*  
*AUDIT PACKAGE*

**CELL TSCA (PCB) PERMIT**



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

JAN 16 1996

Mr. Jack E. Lemley  
Chief Executive Officer  
U.S. Ecology, Inc.  
5333 Westheimer, Suite 1000  
Houston, TX 77056

Re: Renewal of Approval to Operate a Chemical Waste Landfill for PCB Disposal  
EPA ID NVT 5300100000

Dear Mr. Lemley:

This letter, with enclosed conditions, serves as written approval to renew, pursuant to Section 6 (e) (1) of the Toxic Substances Control Act (TSCA) of 1976 (Public Law No. 94-469) and the Federal PCB Regulation 40 CFR Parts 761.60, 761.65, and 761.75; U. S. Ecology's authority to operate a chemical waste storage and landfill for PCB disposal.

As required by Section 6 (e) (1) of TSCA, the Environmental Protection Agency (EPA), Region IX has determined that your application has satisfied the requirements set forth in 40 CFR Parts 761.60, 761.65 and 761.75. This determination is based on our review of your application and conclusion that operation of the U. S. Ecology, Inc. chemical waste storage and landfill facility located on Highway 95, 11 miles south of Beatty, Nevada will not pose an unreasonable risk of injury to health or the environment.

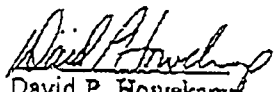
The expiration date for this approval is January 1, 2001. This approval shall expire on the expiration date unless the applicant makes a written request for renewal of this approval at least 180 days prior to the expiration date.

If you have any questions regarding this approval, please contact Yosh Tokiwa at (415) 744-1118 or Charles Berrey at (415) 744-1117.

Sincerely,

Date

1/11/98

  
David P. Howekamp  
Director  
Air and Toxics Division

Enclosure

cc: Evelyn Ponton, U.S. Ecology  
David Hanneman, OPPT, EPA HQ  
Jeffrey Denison, Nevada DEP (Carson City)



# US Ecology, Inc.

*An American Ecology Company*

## FAX COVER SHEET

Date: 3.9.99

Number of Pages: 22  
(including cover sheet)

TO:

*Eric*

FROM: Dana Sullivan  
Customer Service Manager  
Beatty Operations

US Ecology  
P.O. Box 578  
Beatty, NV 89003  
(775) 553-2203 ext. 109  
(800) 239-3943  
(775) 553-2125 FAX

Remarks: ☐ For your review ☐ Per your request ☐ Urgent ☐ Please comment

*Copy of permit you requested*

*Any questions, please call me.*

*Thanks,*

*Dana*

BEATTY, NEVADA - PART A  
AUTHORIZED WASTE CODES

4/9/97

D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012 D013  
D014 D015 D016 D017 D018 D019 D020 D021 D022 D023 D024 D025 D026  
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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

JAN 16 1996

Mr. Jack E. Lemley  
Chief Executive Officer  
U.S. Ecology, Inc.  
5333 Westheimer, Suite 1000  
Houston, TX 77056

Re: Renewal of Approval to Operate a Chemical Waste Landfill for PCB Disposal  
EPA ID NVT 3300100000

Dear Mr. Lemley:

This letter, with enclosed conditions, serves as written approval to renew, pursuant to Section 6 (e) (1) of the Toxic Substances Control Act (TSCA) of 1976 (Public Law No. 94-469) and the Federal PCB Regulation 40 CFR Parts 761.60, 761.65, and 761.75; U. S. Ecology's authority to operate a chemical waste storage and landfill for PCB disposal.


As required by Section 6 (e) (1) of TSCA, the Environmental Protection Agency (EPA), Region IX has determined that your application has satisfied the requirements set forth in 40 CFR Parts 761.60, 761.65 and 761.75. This determination is based on our review of your application and conclusion that operation of the U. S. Ecology, Inc. chemical waste storage and landfill facility located on Highway 95, 11 miles south of Beatty, Nevada will not pose an unreasonable risk of injury to health or the environment.

The expiration date for this approval is January 1, 2001. This approval shall expire on the expiration date unless the applicant makes a written request for renewal of this approval at least 180 days prior to the expiration date.

If you have any questions regarding this approval, please contact Yosh Tokiwa at (415) 744-1118 or Charles Berrey at (415) 744-1117.

Sincerely,

1/11/96  
Date

  
David P. Howekamp  
Director  
Air and Toxics Division

Enclosure

cc: Evelyn Ponton, U.S. Ecology  
David Hanneman, OPPT, EPA HQ  
Jeffrey Denison, Nevada DEP (Carson City)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

In the Matter of	)	Approval to Commercially Store and
U.S. Ecology, Inc.	)	Dispose of Polychlorinated Biphenyls (PCBs)
Beatty, Nevada Facility	)	RENEWAL AS AMENDED
5333 Westheimer, Suite 1000	)	
Houston, TX 77056-5407	)	

AUTHORITY

This Approval to renew U.S. Ecology, Inc., Beatty, Nevada's authority to store and landfill Polychlorinated Biphenyls (PCBs) is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA) of 1976 (Public Law No. 94-469) and the Federal PCB Regulation, 40 C.F.R. Parts 761.60(a)(3)(ii), 761.65 and 761.75.

Under 40 C.F.R. 761.60(i) and 761.65(d)(2), the Regional Administrator is authorized to grant approvals governing the commercial storage and disposal of PCBs. In Region IX, this authority has been redelegated to the Director of the Air and Toxics Division (ATD) by Regional Order R9 1260.31.

EFFECTIVE DATE

This Approval shall become effective upon signature of the ATD and shall expire on January 1, 2001, unless suspended, revoked, or terminated in accordance with the Conditions of Approval stated herein.

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### DEFINITIONS

All the terms and abbreviations used in this Approval shall have the meanings as defined in 40 C.F.R. Part 761.3 unless the context clearly indicates otherwise or unless defined below for the purposes of this Approval.

"Application" and "U.S. Ecology Application" mean the December 10, 1994 Application and subsequent (September 1995) revisions which were submitted to EPA Region IX for renewal of U.S. Ecology's November 28, 1989 approval and June 12, 1992 modification to store and landfill PCBs

"U.S. Ecology" means the company U.S. Ecology, Inc. located at 5333 Westheimer, Suite 1000, Houston, TX 77056-5407.

"U.S. Ecology Facility" and "Facility" mean the site located at Beatty, Nye County, Nevada where the EPA-approved PCB commercial storage facility and landfill site is located.

"ATD" means the Director, Air and Toxics Division, EPA Region IX.

"EPA" means the United States Environmental Protection Agency, Region IX Office.

"NDEP" means the Nevada Division of Environmental Protection.

"RCRA" means the Resource Conservation and Recovery Act.

"Regional Administrator" means the Regional Administrator, EPA Region IX.

"TSCA" means the Toxic Substances Control Act.

### BACKGROUND

U.S. Ecology, Inc. has submitted an application to the Regional Administrator for renewal of EPA Region IX's approval to store and dispose of non-liquid PCB waste in Cell 11, at their landfill site located near Beatty, Nevada.

The facility is a chemically secure landfill located on an 80 acre site on Highway 95 about eleven (11) miles south of the town of Beatty in Nye County, Nevada and consists of nine pre-RCRA filled chemical waste cells plus Cell 10 and the currently active Cell 11.

This facility was established in 1962 by the Nuclear Engineering Company for disposal of low-level radioactive wastes (LLRW). In 1970, Nuclear Engineering obtained permission from the State of Nevada to dispose of hazardous chemical wastes on a portion of the property adjacent to the authorized LLRW disposal area but separated by a 200 foot buffer zone. The chemical disposal facility has been in operation since then. The disposal of LLRW was discontinued in December, 1992.

In November 1980, the facility obtained interim status to operate as a hazardous waste management facility under the Resource Conservation and Recovery Act (RCRA). In 1981, Nuclear Engineering's name became U.S. Ecology, Inc. and has acted as the facility operator while the State of Nevada has retained title to the property. In August 1983, US Ecology submitted Part B of the Federal RCRA permit application to both the State of Nevada Division of Environmental Protection (NDEP) and EPA Region IX and obtained a joint permit in June, 1988, effective for five years. An application to renew their RCRA permit has been submitted to the NDEP and is currently under review.

In addition to the PCB, non-hazardous, and RCRA waste disposal operations, the facility stores, treats and disposes of drummed and bulk solid chemical wastes. The now filled Cell 10, with its above grade portion, contains about 780,000 cubic yards of waste. Cell 11 has an approximate below-grade capacity of one million cubic yards. The wastes are buried in segregated subcells according to waste compatibility. No ignitable or reactive wastes are accepted for disposal.

The RCRA permit under review for renewal by NDEP seeks authorization to construct and operate an additional landfill cell (Cell 12), two more container storage areas, an additional batch stabilization unit, a tank farm for storage of liquid PCB and hazardous wastes, and a containment building for handling hazardous debris.

EPA approvals to operate a PCB storage and disposal facility have been issued in 1978, 1982, 1987, and 1989.

### APPROVAL

1. In compliance with the provisions of Section 6(e) of the Toxic Substances Control Act (TSCA), as amended, 15 USC 2601, the State of Nevada, as site owner (herein after sometimes referred to as "Owner") and U.S. Ecology, Inc., the facility operator (herein after sometimes referred to as "Operator"), are hereby authorized to continue to operate, jointly and severally, a commercial PCB storage facility and a chemical waste landfill to dispose of non-liquid polychlorinated biphenyls (PCBs) wastes in Cell 11, a defined 12.28 acre L-shaped area described in the U.S. Ecology Application, in accordance with this Approval and the Conditions of Approval as stated herein.

2. Public input was solicited regarding EPA Region IX's pending renewal of U.S. Ecology's authority to commercially store and landfill PCBs. Two, two day notices during a 30 day period were placed in two local newspapers. No responses were received.

3. The facility was last inspected May 5, 1995. No violations were found. Based on our review of U.S. Ecology, Inc.'s application for renewal and U.S. Ecology's historical record since 1978, and the results of the most recent inspection, EPA finds that the operation of this PCB storage and landfill operation will not pose an unreasonable risk of injury to human health or the environment.

4. To renew this storage and landfill Approval, U.S. Ecology must apply to the EPA in writing at least 180 days but not more than 270 days prior to the expiration date of this Approval. EPA may require U.S. Ecology to submit additional storage, treatment and landfill information in connection with its application for renewal. The above-mentioned information will be reviewed by EPA to determine if this Approval is to be renewed.

### CONDITIONS OF APPROVAL

#### A. General Conditions

1. U.S. Ecology must comply with and operate in accordance with provisions of the PCB regulation (40 C.F.R. Section 761), with the Conditions of Approval stated herein, and with the U.S. Ecology application dated December 10, 1994 and September 1995 revisions which were submitted to and approved by EPA.

2. Any departure from the Conditions of Approval, modifications of this Approval, or the U.S. Ecology application approved by EPA, must receive prior written authorization from the ATD. Any unauthorized departure will subject this Approval to suspension, revocation, or termination, and will subject U.S. Ecology to enforcement action under TSCA.



3. US Ecology shall notify the EPA in writing and obtain prior approval before instituting any changes that may be required to be consistent with any condition in the final RCRA permit which may affect the PCB disposal operation of Cell 11.

4. In the event inconsistencies are found between the plans and specifications for the design, construction, and operation described in the application and the Approval, U.S. Ecology shall comply with the provisions of this Approval.

5. If at any time U.S. Ecology becomes aware of any departure from the PCB regulations, Conditions of Approval, modifications of this Approval, or the U.S. Ecology application, which may constitute an imminent danger to human health or the environment, U.S. Ecology shall immediately institute the Contingency Plan and Emergency Procedures delineated in Condition G of this Approval. U.S. Ecology shall also notify the ATD within 24 hours of becoming aware of such non-compliance and submit a written report to ATD describing the departure within five (5) working days. Other non-compliance events not otherwise reported under the provisions of this approval must be reported within thirty (30) days of becoming aware of the non-compliance.

6. EPA reserves the right to impose additional conditions to the Approval and to modify any Condition of the Approval. EPA may withdraw or modify this Approval if it has reason to believe that the continued operation of the storage, treatment and/or disposal facility presents an unreasonable risk to public health or the environment, if EPA issues new regulations or standards for issuing PCB approvals, or for noncompliance with the Conditions of the Approval or the PCB regulation (40 C.F.R. Part 761) with the exception of the conditions outlined in E1 and E2.

7. U.S. Ecology shall provide upon request any information which the EPA deems necessary to determine whether cause exists for modification, suspension, revocation, or termination of this Approval. Failure to provide the above-mentioned information within five (5) working days of its request, or such reasonable time not to exceed 30 days as agreed to by both parties, shall be deemed a violation of the Conditions of Approval unless EPA determines that additional time is warranted.

8. EPA officials and representatives of EPA, upon presentation of credentials, shall be permitted access to the storage, treatment, disposal, and landfill site at all reasonable times during regular business hours to 1) determine compliance with applicable statutes, regulations, Approval, and Conditions of Approval issued pursuant thereto and 2) for the purpose of inspection, sampling, or monitoring.

Any refusal by U.S. Ecology to allow access to the site and process during such regular business hours, or refusal to provide copies of records shall be deemed a violation of the Conditions of Approval.

9. This approval designates the State of Nevada as the Owner and U.S. Ecology, Inc., as the Operator of this PCB storage and landfill facility and applies only to these parties as the designated Owner and Operator. Before any change of Owner or Operator occurs, U.S. Ecology shall notify the ATD at least thirty (30) days before transferring ownership of the facility.

10. U.S. Ecology shall also submit to the ATD, at least thirty (30) days before such transfer, a notarized affidavit signed by the transferee which state that the transferee will abide by all provisions of this Approval.

11. After receiving such notification and affidavit, and other such documents as EPA may require, EPA may issue an amended Approval substituting the transferee's name for the U.S. Ecology name, or EPA may require the transferee to apply for a new PCB landfill and storage Approval. The transferee shall not operate under the Approval until the ATD issues an Approval in the transferee's name.

12. This Approval is binding upon U.S. Ecology. U.S. Ecology is responsible for the actions of all U.S. Ecology employees, agents, and contractors who are involved in the operation of the storage and landfill facility. Compliance with the PCB regulation, the Conditions of Approval, modifications of this Approval, written notifications, and the U.S. Ecology application approved by EPA, does not relieve U.S. Ecology of the responsibility to comply with all other applicable Federal, State, and local laws and regulations, including but not limited to the Resource Conservation Recovery Act (RCRA), as amended (42 USC 6901 et seq.) and the Occupational Safety and Health Act.

#### B. Authorized PCB Wastes

The following non-liquid PCB wastes are the only wastes authorized by this approval for disposal in Cell 11 area.

1. Non-liquid PCBs: Non-liquid PCBs in the form of contaminated soil, rags, or other debris. Except for leachate, liquid PCB wastes, regardless of concentration, shall not be processed into non-liquid forms for the purpose of disposal at this PCB landfill.

2. Dredged materials and municipal sewage treatment sludge that contain PCBs: These materials shall be dewatered so as to pass the Paint Filter Liquid Test described in the most current approved version of SW-846, "Test Method for Evaluating Solid Wastes, Method 9095", prior to landfilling, and the water disposed of in accordance with 40 C.F.R. 761.60(a)(3).

3. Drained PCB Transformers (≥500 ppm PCB): PCB transformers shall be drained of all free-flowing liquids, filled with a PCB-soluble solvent, allowed to stand for at least 18 hours, and then drained thoroughly. The transformer carcass, drained liquid and the solvent removed from the PCB transformers shall be disposed of in accord with 40 C.F.R. 761.60 (a)(1).

4. PCB Electrical Equipment: All PCB electrical equipment except capacitors shall be drained of all free-flowing liquids and the liquids disposed of in accord with 40 C.F.R. 761.60(a)(2).

5. PCB-Contaminated Capacitors (containing between 50-500 ppm PCBs):

6. PCB-Free Capacitors: Any capacitor determined to be PCB free as indicated by label, nameplate information, manufacturer's literature, or chemical analysis.

7. PCB Small Capacitors not owned by manufacturer: PCB small capacitors owned 761.60(2)(i)  
by a person who did not manufacture or at any time manufactured PCB capacitors or PCB 3 (1)  
equipment.

8. PCB Small Capacitors owned by manufacturer: PCB small capacitors owned by a person who manufactured or at any time manufactured PCB capacitors or PCB equipment and acquired such PCB capacitors or equipment in the course of manufacturing are required to be disposed of by incineration.

9. Large Capacitors with 500 ppm or over PCBs: Large, high or low voltage capacitors containing PCBs 500 ppm or over are required to be disposed of by incineration. 761.60(2)(iii)  
3 (3)  
(4)

10. Drained PCB Hydraulic Machines: PCB hydraulic machines must be drained of all free-flowing liquids and the liquids disposed of in accord with 40 C.F.R. 761.60(a)(1). If the liquid contains 1000 ppm PCBs or greater, the machine must be flushed with a PCB-soluble solvent containing less than 50 ppm PCBs and the solvent disposed of in accord with 40 C.F.R. 761.60(a)(1).

11. PCB Articles at 500 ppm PCBs or Greater: PCB Articles containing PCBs at 500 ppm or greater shall be thoroughly drained of all free-flowing PCB liquids and the drained liquids disposed of in an EPA approved incinerator.

12. PCB Articles With Between 50-500 ppm PCBs: PCB articles containing PCBs between 50 and less than 500 ppm shall be thoroughly drained of all free-flowing PCB liquids and the drained liquids disposed of in accord with 40 C.F.R. 761.60(a)(2).

13. Undecontaminated PCB Containers: PCB containers which have been used to contain PCB liquids 500 ppm or greater and which have not been decontaminated in accordance 40 C.F.R. 761.79 must be drained of any liquids and the liquids disposed of in accord with 40 C.F.R. 761.60(a).

14. PCB Containers Exposed to less than 500 ppm PCBs: Containers used to contain PCB liquids at less than 500 ppm must be drained of any liquids and the liquids disposed of in accord with 40 C.F.R. 761.60(a).

15. Combined TSCA/RCRA Waste Streams: PCB-containing wastes may be placed in the stabilization unit when the presence of RCRA hazardous constituents in combined RCRA/TSCA waste requires treatment prior to land disposal. This unit is not authorized for management of any combined waste streams in which the PCB component of the waste is not otherwise authorized for direct land disposal.

#### C. Storage of PCBs

1. The facilities for long term storage (over 30 days) of PCBs and PCB Items designated for disposal shall comply with the following requirements:

- a) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items.
- b) An adequate floor with a continuous curb at least six inches high. The floor and curbing shall provide a containment volume at least twice the internal volume of the largest PCB Article or PCB Container stored therein or 25 percent of the total internal volume of all the PCB Articles or PCB Containers stored therein, whichever is greater.
- c) The floor and curbing shall be constructed of continuous, smooth and impervious materials such as Portland cement concrete or steel. An Epoxy or similar coating is recommended with concrete to prevent or minimize penetration of PCBs.
- d) There shall be no drain valves, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.
- e) The area is not located below the 100-year flood water elevation.

2. All storage tanks for bulk storage of drained PCB liquids, flushates and other liquid PCB wastes shall be located in a bermed, containment area and comply with the following requirements:

- a) The tanks are elevated to allow daily leak detection.
- b) Has a secondary containment system consisting of a sandwich of two (2) 30 mil liners and a 125 mil polyester filter fabric protective sheet covered by at least 12 inches of sand for protection of the liner and easy cleanup of any spills.
- c) The capacity of the containment area is twice the volume of the largest tank plus the precipitation from a 24 hr. 100 year storm.

#### D. Disposal

1. The landfill disposal requirements specified in 40 C.F.R. 761.60, 761.75, 761.120, and 761.180(b) shall be adhered to at all times. The requirements of 40 C.F.R. 761.65 shall be adhered to should any non-liquid PCB wastes be stored prior to disposal.
2. The operations plan and procedures specified in the Landfill Operations Plan of the December 10, 1994 application submitted to the EPA and the revisions and amendments incorporated as a conditional part of this Approval shall be adhered to at all times along with any future amendments approved or specified in writing by the EPA.
3. PCBs and PCB Items shall be placed in areas authorized for PCB disposal in a manner that will prevent damage to containers and articles.
4. Non-liquid wastes chemically compatible with PCB wastes may also be disposed of in Cell 11. Non-compatible wastes may be disposed of in areas authorized for PCB disposal but must be separated from PCB wastes with at least two (2) feet of mutually compatible wastes or clean soil.
5. Under no circumstances shall ignitable wastes be disposed of in areas designated for non-liquid PCB disposal. The disposal of liquid wastes, as defined by the Paint Filter Liquid Test, is not permitted in any portion of Cell 11.
6. The disposal of non-liquid, non-PCB wastes in Cell 11 must also comply with the rules and regulations promulgated pursuant to RCRA.
7. All PCB wastes shall be buried three (3) feet below the natural land surface.

#### E. Operation

1. The leachate collection/monitoring system shall be inspected weekly for the presence of any liquid. Any pumpable liquid detected shall be pumped until liquid removal is no longer possible and the quantity of liquid removed recorded. Whenever liquids in the leachate collection/monitoring system are found above the pumpable level, the inspection frequency for that sump will be increased to daily until the liquid level in the sump remains below pumping level for two consecutive days. At that time the monitoring may then revert to weekly.

2. The collected leachate shall be sampled and analyzed quarterly for PCB, pH, specific conductance, and chlorinated organics in accordance with the facility's Sampling and Analysis Plan. (On June 12, 1992, US Ecology's monthly reporting for leachate required under TSCA was amended to permit quarterly reporting to maintain consistency with US Ecology's RCRA permit conditions. This exception is continued in view of no verifiable PCBs in any leachate sample since the reporting of leachate was instituted in 1989).

3. The owner or operator shall report in writing to the EPA whenever PCBs at  $\geq 2$  ppm are detected in any monitoring wells or at the leachate collection/detection sumps upon confirmation of the analytical results.

4. Collected leachate, regardless of PCB concentration ( $\geq 2$  ppm), shall not be solidified by mixing with soil or other absorbent material, and disposed of in areas authorized for non-liquid PCB disposal. Such leachate must be stored in containers or tanks in accordance with 40 C.F.R. 761.65 and transported to an authorized off-site facility for storage, treatment and/or disposal. The leachate may also be processed through a carbon adsorption system to remove organic contaminants which, after confirming through analysis that PCBs are less than 2 ppm in the processed leachate, may be solidified with a pozzolanic reagent or equivalent before disposal in any active landfill cell. Processed leachate may be sent to an authorized off-site storage or disposal facility.

5. The spent carbon from the carbon adsorption system shall be sent off-site for regeneration or disposal at an authorized facility.

6. All run-on water from precipitation accumulated in areas authorized for non-liquid PCB disposal shall be considered leachate and handled as such.

7. All water analysis, including those from collected leachate and monitoring well samples, shall be performed in accord with the requirements specified in 40 C.F.R. 761.75 (b)(6)(iii) for PCB, pH, specific conductance, and chlorinated organics.

8. All monitoring wells for the non-liquid PCB disposal site (Cell 11) shall be sampled at least once every six months after final closure of Cell 11, for a period of thirty years. After closure, the leachate in the leachate collection system's sumps will initially be monitored monthly. The monitoring frequency may be reduced to quarterly and eventually semiannually if no pumpable liquids are detected for two consecutive monitoring terms. Any time pumpable liquids are detected during the post closure care period, the monitoring period will revert to monthly and continue until no pumpable liquids are found for two consecutive months when the monitoring frequency may again be reduced to quarterly and eventually semiannually if no pumpable liquids are detected for two consecutive monitoring terms.

9. EPA shall be notified in writing of all amendments to the Operation Plan. Any amendments to the Plan which affect the manner in which the facility complies with the TSCA regulations or the TSCA approval are subject to EPA approval prior to implementation pursuant to 40 C.F.R. 761.75(b)(8)(ii).

10. The owner or operator of the PCB landfill facility shall submit monthly in writing a report of any PCB wastes received during the previous month which had resulted in spills, leaks, or uncontrollable discharges of PCBs. The report shall include the source of the PCB wastes, name of transporter, the quantity received, and a description of the PCB wastes.

In addition, the monthly report shall include a description of any event which is not normal to the operation of the PCB landfill facility as hereby authorized such as accidents, spills, leaks, uncontrolled discharges, earthquake damage, excessive rain episodes (i.e., rainfall in excess of the 24 hr, 25 yr. storm event), fires, explosions, etc.

11. The notification of State and Local governments shall be in accord with 40 C.F.R. 761.60 (f)(1)(ii). Such notification shall be specifically addressed to the appropriate State and local officials or specifically addressed to the titles of their positions.

12. If at any time the EPA determines that the PCB storage and/or landfill facilities authorized by this approval are creating a situation of imminent hazard, EPA will notify the facility as to the steps required to prevent the hazard. Such steps must be taken by the date provided in such notice.

13. This approval shall be subject to periodic review as deemed appropriate by EPA and may be modified, suspended, or revoked in whole or in part for cause including, but not limited to, the following:

- a) Violation of any terms or conditions of this approval.
- b) Obtaining this approval by misrepresentation or failure to disclose fully all relevant facts.
- c) A material change in any condition that requires cessation of the authorized activities.
- d) For other reasons authorized by law.

#### F. Worker Protection

U.S. Ecology shall meet the following work practice, operation, and other standards at all times during the operation of its facility. All such standards are Conditions of this Approval.

1. U.S. Ecology shall take all precautionary measures to ensure that the operation of the PCB landfill and disposal processes are conducted in compliance with the applicable safety and health standards required by Federal, State, and local regulations and ordinances.

2. All US Ecology employees must undergo training with periodic refreshers in accordance with US Ecology's Training Plan described in the September 1995 revision to the December 10, 1994 application. All new employees must be trained before entering the storage, processing, and landfill areas. A signature sheet must be included as a part of each employee's training record to verify participation in the training program.

3. Surfaces of the clean-in/clean-out and non-processing areas of the facility shall not exceed 10 ug/100 cm<sup>2</sup> PCBs.

4. All plant operations personnel must enter and leave the PCB processing facility through the clean-in/clean-out facility.

5. Surface areas of the clean-in/clean-out and non-storage areas within the facility shall not exceed 4 pg/cm<sup>2</sup> 2,3,7,8-TCDD equivalency.

6. In the event levels of contamination in excess of those referenced in Paragraphs F3 and F5, U.S. Ecology shall immediately begin decontamination of the affected area. Cleanup to below the referenced levels shall be completed within 48 hours of discovery of the initial contamination.

#### G. Contingency Plan and Emergency Procedures

1. U.S. Ecology shall follow the SPCC and/or Contingency Plans in the approved application whenever there is a fire, explosion, or release of PCBs or hazardous constituents.

2. A copy of the Contingency Plan and all revisions to the Plan are to be maintained at the U.S. Ecology site. A copy of the Training Manual, SPCC Plan, and this Approval shall also be maintained on-site. Also lists of emergency contacts, telephone numbers, and designated emergency exit routes shall be posted in prominent locations throughout the facility.

3. The facility shall at a minimum be equipped with the following:

a) An internal communications or alarms system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

b) Devices, such as a telephone, cellular phone or hand-held two-way radio, which is immediately available at the scene of the operations and capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams.

c) Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment.



d) Water at adequate volume and pressure to supply fire hose streams or foam equipment.

e) U.S. Ecology shall at a minimum test and maintain the equipment specified above as recommended by the manufacturer to assure its proper operation in time of emergency. In the event any of the equipment specified above was manufactured by U.S. Ecology, U.S. Ecology shall establish and follow a testing and maintenance plan for those manufactured items.

4. Whenever PCBs are being poured, mixed, or otherwise handled, U.S. Ecology shall ensure that all personnel involved in the operation will have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

5. At all times, there shall be at least one (1) employee either at the U.S. Ecology facility or on call who has:

- a) The responsibility for coordinating all emergency response measures.
- b) The authority to commit the resources needed to carry out the Contingency Plans.

This employee shall have immediate access to the entire facility and to a communication device such as a telephone, cellular phone, or hand-held two-way radio immediately available at the scene of operation capable of summoning external emergency assistance.

6. Adequate aisle space shall be maintained to allow for unobstructed access by personnel, fire protection equipment, and decontamination equipment to all PCB items stored on-site.

7. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment shall be inspected at the frequencies referenced in Section 7, Facility Inspection (Revision 1), of the approved application. All such equipment not specifically referenced in Section 7 of the approved application must be inspected at least once a month to assure its proper operation. All emergency equipment inspection and maintenance records must be maintained at the U.S. Ecology facility for at least three years and made available to EPA upon request.

8. U.S. Ecology shall update the information regarding the storage and disposal activities at the facility, stored materials, contingency plans, and emergency procedures provided to local police departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency service on an annual basis.

9. In the event an authorized facility operator of U.S. Ecology believes, or has reason to believe, that any detectable quantities of PCBs have been released to the environment as a result of storage and/or disposal operations, the facility operator shall immediately inform the EPA emergency response personnel by telephone at (415) 744-2000 within 24 hours after discovery. A full investigation into the cause of the incident and a detailed report shall be included in the daily operation records. A copy of this report describing the incident shall be submitted to ATD within 15 days after the incident.

10. In the event of a detectable release of PCBs to groundwater, U.S. Ecology shall implement the compliance monitoring and corrective action programs stipulated by the RCRA permit.

11. U.S. Ecology shall immediately report to EPA if unauthorized entry at the facility occurred which caused PCBs to be discharged, the nature of the problem, if any, that resulted from this occurrence, and the corrective action taken by the facility to prevent future occurrences. This includes any tampering, destruction, or loss at the facility which caused release of PCBs.

12. U.S. Ecology shall review and immediately amend, if necessary, the SPCC Plan and Contingency Plan whenever:

- a) The Plan fails in an emergency;
- b) The facility changes in its design, construction, operation, maintenance, or other circumstances that materially increase the potential for fires, explosions, or releases of PCBs or hazardous constituents, or other response necessary in an emergency;
- c) The list of emergency coordinators changes;
- d) The list of emergency equipment changes;
- e) When any major revision is warranted;
- f) EPA determines that a revision to the Plan is necessary.

#### H. Recordkeeping and Reporting

1. U.S. Ecology shall comply with all recordkeeping requirements outlined in the PCB Regulation, 40 C.F.R. Part 761.

2. All PCB records, documents, and reports shall be maintained at the U.S. Ecology facility, and shall be made available for inspection by authorized EPA representatives. When U.S. Ecology ceases operations, all records, documents, and reports or certified copies thereof, shall be maintained for at least five (5) years following cessation of operations, and made available to EPA upon request.

3. All records required by 40 C.F.R. §761.180 and this Approval shall be written in ink or typed. Any modification or correction of the records must be initialed and dated by the supervisor in charge. If the recordkeeping is maintained by computer system, U.S. Ecology shall maintain monthly printouts of records pertaining to the process.

4. The reports, notifications, mail, or other submittals required to be submitted to EPA under this Approval to Operate shall be sent to:

Director  
Air and Toxics Division  
U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105  
Attn: Jo Ann Semones, Ph.D., A-4-4

5. All records, documentation, and information relating to the sampling, analysis, and quality assurance as required by this Approval shall be retained a for a minimum of five (5) years, or longer if requested by ATD, and made available upon request. These records, documentation, and information shall include the following:

- a) Exact date, place, and time of each sample collected;
- b) Volume of each sample collected;
- c) Name of person collecting each sample;
- d) Name of analyst;
- e) Date and time of analysis;

- f) The analytical techniques or methods used for each sample;
- g) The analytical results including chromatographs, calculations, and other raw data;
- h) Calibration records, maintenance records of sampling equipment, and analytical instrumentation; and,
- i) Records of quality assurance activities as described in Section 6 of the approved application.

6. At the completion of a cleanup required by Paragraph F 8, U.S. Ecology shall develop and maintain records of the cleanup including at a minimum:

- a) Identification of the source of the contamination;
- b) Date and time contamination was discovered;
- c) Date and time cleanup was completed;
- d) A brief description of contaminated area;
- e) Pre-cleanup and post-cleanup sampling data used to define boundaries of contamination and a brief description of the sampling methodology used to establish contaminated boundaries;
- f) Amount of waste cleanup material generated;
- g) A certification statement signed by U.S. Ecology personnel stating that the decontaminated levels referenced in the appropriate Approval condition has been achieved and that the information contained in the record is true to the best of his/her knowledge.

7. U.S. Ecology shall submit to the ATD a summary of all modifications to the process and application document within thirty (30) days of the end of each year's operation, or a report that no such modifications were made.

8. U.S. Ecology shall maintain copies of the Certificate of Disposal for all PCBs and PCB items which are stored at the commercial storage facility. Certificates of Disposal shall be provided to the generator within thirty (30) days of receipt by U.S. Ecology of documentation of final disposal of all materials resulting from the commercial storage of the generator's PCBs and PCB items.

## I. Closure and Financial Requirements

1. Under the 1988 Nevada Division of Environmental Protection (NDEP), hazardous waste permit, U.S. Ecology is exempt from the TSCA financial assurance requirement as a state owned facility. However, the NDEP will require financial assurance when the NDEP permit is renewed next year. Upon approval of the NDEP permit, U.S. Ecology shall establish a financial assurance mechanism, as required by Condition I in this Approval, in coordination with the State of Nevada and EPA.

2. Within thirty (30) days of establishment of such financial mechanism, an executed copy of the trust agreement or other instrument and satisfactory evidence as determined by EPA of adequate liability insurance meeting the requirements of 40 C.F.R. Part 264, Subpart H shall be submitted to ATD. U.S. Ecology shall submit such other documentation as EPA may require to determine that the liability insurance requirement has been met.

3. The financial assurance mechanism shall be equivalent to that specified in 40 C.F.R. 761.65(g) and shall be maintained to provide for:

a) Funding of proper closure of the operation. The closure plan shall include the decontamination and/or disposal in an EPA approved PCB disposal facility of PCB-contaminated equipment and materials.

b) Compensating others for bodily injury and property damage caused by accidents arising from operations of the facility.

4. U.S. Ecology shall comply with the current closure plan and closure cost estimate approved by EPA. At no time may the estimated costs associated with performing closure of the U.S. Ecology facility exceed the current closure cost estimate approved by EPA.

5. U.S. Ecology shall notify the ATD at least 90 days prior to the date it expects to begin closure.

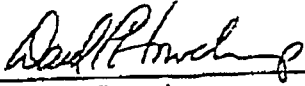
6. Upon termination of the operation, U.S. Ecology shall proceed according to the provisions of the Closure Plan submitted to and approved by EPA. As used in this paragraph, "termination of the operation" includes cessation of operations required by expiration, termination, or revocation of this Approval.

7. U.S. Ecology shall amend the Closure Plan whenever changes in operating plans or facility design affect the Closure Plan, including the current closure cost estimate, or whenever there is a change in the expected year of closure. U.S. Ecology must submit to the ATD for approval any modifications to the Closure Plan at least thirty (30) days prior to the modification.

8. U.S. Ecology shall submit documentation of continued financial assurance annually to ATD to meet the requirements of Paragraph 4 of this Section.

9. The cost estimate for closure shall be based on worst-case conditions and shall be updated annually, or whenever a change in the Closure Plan increases the closure cost, and maintained on-site with the Closure Plan. The updated closure cost estimates shall be submitted to ATD within thirty (30) days of modification of the estimated closure cost.

1/11/96  
Date

  
David P. Howekamp  
Director  
Air and Toxics Division

FPA LD-Number (Enter from page 1)

Secondary: 10 Number: (Enter from page 2)

N	7	T	3	3	0	0	1	0	0	0	0
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2) Nature of Business: (Provide a brief description):

US Ecology, Inc., provides treatment, disposal, packaging, transportation, consulting and clean-up services for Non-Hazardous, RCRA and TSCA regulated waste.

Treatment of hazardous debris will be provided by physical extraction alternatives (e.g., high pressure washing, abrasive blasting) and immobilization technologies (microencapsulation and macroencapsulation). Acceptable debris types are: Bricks, cloths, concrete, paper, rocks, pavement, wood, glass, rubber, plastic and metal objects.

Contaminated categories - Treatment may be conducted on hazardous debris carrying any one or more of the characteristic and listed waste codes included in Page 6.

## 2. Process Codes and Design Capacities

**PROCESS CODE** Enter the code from the list of process codes below that best describes each process performed in the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach separate sheets of paper with the additional code information. For other processes (i.e., 999, 999-TD and X99), describe the process (including its design capacity) in the space provided in item XIV-c.

**PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.

**AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as raw losses, post-loss or enforce new), check and enter the total amount of waste for that process.

**UNIT OF MEASURE:** For each amount entered in column 8C, enter the code from the list of units of measure in column 8D. The units of measure used. On the units of measure that are listed below should be used:

PROCESS TOTAL NUMBER OF UNITS: Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<u>Disposal:</u>					
079	Underground Injection	Gallons; Liters; Gallons Per Day; or Liters Per Day	T87	Smelting, Melting, Or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
080	Landfill	Acre-foot or Hectare-meter	T88	Titanium Dioxide Chloride Process	
081	Land Treatment	Acres or Hectares	T89	Oxidation Reactor	
082	Ocean Disposal	Gallons Per Day r Liters Per Day	T90	Methane Reforming Furnace	
083	Surface Impoundment	Gallons or Liters	T91	Pulping Liquor Recovery Furnace	
099	Other Disposal	Any Unit of Measure Listed Below	T92	Comousdon Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
<u>Storage:</u>			T93	Halogen Acid Furnaces	
S01	Container (Barrel, Drum, Etc.)	Gallons or Liters	T94	Other Industrial Furnaces Listed In 40 CFR §260.10	
S02	Tank	Gallons or Liters			
S03	Waste Pile	Cubic Yards or Cubic Meters			
S04	Surface Impoundment	Gallons or Liters			
S05	Drip Pad	Gallons or Liters			
S06	Containment Building-Storage	Cubic Yards or Cubic Meters			
S09	Other Storage	Any Unit of Measure Listed Below			
<u>Treatment:</u>			<u>Miscellaneous (Subpart X):</u>		
T01	Tank	Gallons Per Day or Liters Per Day	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day or Liters Per Day	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour	X04	Geologic Repository	Cubic Yards or Cubic Meters
T80	Boiler	Gallons or Liters	X99	Other Subpart X	Any Unit of Measure Listed Below
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T82	Lime Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T83	Aggregate Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T84	Phosphate Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T85	Coke Oven	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T86	Blast Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons _____	G	Short Tons Per Hour _____	D	Cubic Yards _____	Y
Gallons Per Hour _____	E	Metric Tons Per Hour _____	W	Cubic Meters _____	C
Gallons Per Day _____	U	Short Tons Per Day _____	N	Acres _____	B
Liters _____	L	Metric Tons Per Day _____	S	Acres-feet _____	A
Liters Per Hour _____	H	Pounds Per Hour _____	J	Hectares _____	Q
Liters Per Day _____	V	Kilograms Per Hour _____	R	Hectare-meter _____	F
				Btu's Per Hour _____	I

## ACCEPTABLE EPA CODES WASTE CODES FOR TREATMENT

Per PART A application in Section I.A. of the  
1994 Permit Application - Approved 4/9/97

D004 D005 D006 D007 D008 D009 D010 D011 D012 D013 D014 D015 D016 D017 D018 D019  
D020 D021 D022 D023 D024 D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035  
D036 D037 D038 D039 D040 D041 D042 D043  
F001 F002 F003 F004 F005 F006 F007 F008 F009 F010 F011 F012  
F019 F020 F021 F022 F023 F024 F025 F026 F027 F028  
F032  
F034 F035  
F037 F038 F039  
K001 K002 K003 K004 K005 K006 K007 K008 K009 K010 K011  
K013 K014 K015 K016 K017 K018 K019 K020 K021 K022 K023 K024 K025 K026 K027 K028  
K029 K030 K031 K032 K033 K034 K035 K036 K037 K038 K039 K040 K041 K042 K043 K044  
K045 K046 K047 K048 K049 K050 K051 K052  
K060 K061 K062  
K064 K065 K066  
K069  
K071  
K073  
K083 K084 K085 K086 K087 K088  
K090 K091  
K093 K094 K095 K096 K097 K098 K099 K100 K101 K102 K103 K104 K105 K106 K107 K108  
K109 K110 K111 K112 K113 K114 K115 K116 K117 K118  
K123 K124 K125 K126  
K131 K132  
K136  
K141 K142 K143 K144 K145  
K147 K148 K149 K150 K151  
P001 P002 P003 P004 P005 P006 P007 P008 P009 P010 P011 P012 P013 P014 P015 P016  
P017 P018  
P020 P021 P022 P023 P024  
P026 P027  
P029 P030 P031  
P033 P034  
P036 P037 P038 P039 P040 P041 P042 P043 P044 P045 P046 P047 P048 P049 P050 P051  
P054  
P056 P057 P058 P059 P060  
P062 P063 P064 P065 P066 P067 P068 P069 P070 P071 P072 P073 P074 P075 P076 P077  
P078  
P081 P082  
P084 P085  
P087 P088 P089  
P092 P093 P094 P095 P096 P097 P098 P099  
P101 P102 P103 P104 P105 P106  
P108 P109 P110 P111 P112 P113 P114 P115 P116  
P118 P119 P120 P121 P122 P123  
U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012  
U014 U015 U016 U017 U018 U019 U020 U021 U022 U023 U024 U025 U026 U027 U028 U029  
U030 U031 U032 U033 U034 U035 U036 U037 U038 U039  
U041 U042 U043 U044 U045 U046 U047 U048 U049 U050 U051 U052 U053  
U055 U056 U057 U058 U059 U060 U061 U062 U063 U064  
U066 U067 U068 U069 U070 U071 U072 U073 U074 U075 U076 U077 U078 U079 U080 U081  
U082 U083 U084 U085 U086 U087 U088 U089 U090 U091 U092 U093 U094 U095 U096 U097



U098 U099

U101 U102 U103

U105 U106 U107 U108 U109 U110 U111 U112 U113 U114 U115 U116 U117 U118 U119 U120

U121 U122 U123 U124 U125 U126 U127 U128 U129 U130 U131 U132 U133 U134 U135 U136

U137 U138

U140 U141 U142 U143 U144 U145 U146 U147 U148 U149 U150 U151 U152 U153 U154 U155

U156 U157 U158 U159 U160 U161 U162 U163 U164 U165 U166 U167 U168 U169 U170 U171

U172 U173 U174

U176 U177 U178 U179 U180 U181 U182 U183 U184 U185 U186 U187 U188 U189 U190 U191

U192 U193 U194

U196 U197

U200 U201 U202 U203 U204 U205 U206 U207 U208 U209 U210 U211

U213 U214 U215 U216 U217 U218 U219 U220 U221 U222 U223

U225 U226 U227 U228

U234 U235 U236 U237 U238 U239 U240 U241 U242 U243 U244

U246 U247 U248

U328

U353

U359

Number (Enter from page 1) Secondary ID Number (Enter from page 1)

V T 3 3 0 0 1 0 0 0 0

Description of Hazardous Wastes (Continued)

Line Item ID	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter Code)	D. Process	
				(1) PROCESS CODES (Enter Code)	(2) Process Description (If a code is not entered in (1))
1	D001	1,000	T	S01/S02	
2	D002	1,000	T	S01	
3	D003	1,000	T	S01	
4	D004	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
5	D005	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
6	D006	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
7	D007	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
8	D008	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
9	D009	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
10	D010	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
11	D011	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
12	D012	10,000	T	D80/T04/T01/S01/S02/S06/T94	
13	D013	10,000	T	D80/T04/T01/S01/S02/S06/T94	
14	D014	10,000	T	D80/T04/T01/S01/S02/S06/T94	
15	D015	10,000	T	D80/T04/T01/S01/S02/S06/T94	
16	D016	10,000	T	D80/T04/T01/S01/S02/S06/T94	
17	D017	10,000	T	D80/T04/T01/S01/S02/S06/T94	
18	D018	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
19	D019	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
20	D020	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
21	D021	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
22	D022	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
23	D023	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
	D024	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	

Please print or type with ELITE type (12 characters per inch) in the unsnaced areas only

USE NO. 22-0-07A-01

EPA ID Number (Exempt from page 1)

Secondary ID Number (Exempt from page 1)

N V T 3 3 0 0 1 0 0 0 0

XIV: Description of Hazardous Wastes (Continued)

Line Number	A: EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	D: UNIT MEASURE (Enter Code)	B: Process	
				1: PROCESS CODES (EPA Code)	2: Process Description (If Code is not entered in D11)
25	D025	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
26	D026	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
27	D027	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
28	D028	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
29	D029	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
30	D030	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
31	D031	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
32	D032	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
33	D033	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
34	D034	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
35	D035	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
36	D036	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
37	D037	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
38	D038	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
39	D039	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
40	D040	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
41	D041	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
42	D042	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
43	D043	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
44	F001	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
45	F002	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
46	F003	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
47	F004	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
48	F005	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
49	F006	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02	

Please print or type with ELITE type 12 characters per inch in the unshaded areas only

GSA No 0248-EPA-07

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from Page 1)

N V T 3 3 0 0 1 0 0 0 0

XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. Process (1) PROCESS CODES (Enter Code) (2) Process Description (If a code is not entered in (1))
50	F007	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02
51	F008	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02
52	F009	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02
53	F010	5,000	T	D80/T04/T01/S01/S02/S06/T94
54	F011	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
55	F012	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02
56	F019	5,000	T	D80/T04/T01/S01/S02/S06/T94/X02
57	F020	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
58	F021	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
59	F022	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
60	F023	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
61	F024	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
62	F025	10,000	T	D80/T04/T01/S01/S02/S06/T94
63	F026	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
64	F027	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
65	F028	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
66	F032	5,000	T	D80/T04/T01/S01/S02/S06/T94
67	F034	5,000	T	D80/T04/T01/S01/S02/S06/T94
68	F035	5,000	T	D80/T04/T01/S01/S02/S06/T94
69	F037	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
70	F038	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
71	F039	40,000	T	D80/T04/T01/S01/S02/S06/T94/X02
72	K001	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV: Description of Hazardous Waste (Continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNF. C. MEASURE (GAL/TON)	D. Process Codes (Enter Code)	E. Process Description (If a code is not entered in D, this field is required)														
73	K002	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
74	K003	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
75	K004	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
76	K005	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
77	K006	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
78	K007	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
79	K008	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
80	K009	1,000	T	D80/T04/T01/S01/S02/S06/T94															
81	K010	1,000	T	D80/T04/T01/S01/S02/S06/T94															
82	K011	1,000	T	D80/T04/T01/S01/S02/S06/T94															
83	K013	1,000	T	D80/T04/T01/S01/S02/S06/T94															
84	K014	1,000	T	D80/T04/T01/S01/S02/S06/T94															
85	K015	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
86	K016	1,000	T	D80/T04/T01/S01/S02/S06/T94															
87	K017	1,000	T	D80/T04/T01/S01/S02/S06/T94															
88	K018	1,000	T	D80/T04/T01/S01/S02/S06/T94															
89	K019	1,000	T	D80/T04/T01/S01/S02/S06/T94															
90	K020	1,000	T	D80/T04/T01/S01/S02/S06/T94															
91	K021	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
92	K022	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
93	K023	1,000	T	D80/T04/T01/S01/S02/S06/T94															
94	K024	1,000	T	D80/T04/T01/S01/S02/S06/T94															
95	K025	1,000	T	D80/T04/T01/S01/S02/S06/T94															
96	K026	1,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV. Description of Hazardous Wastes (Continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIFORM MEASURE (ENCL CODE)	D. Process															
				PROCESS CODES (Enter Code)	Process Description (If a code is not entered, D-11)														
97	K027	1,000	T	D80/T04/T01/S01/S02/S06/T94															
98	K028	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
99	K029	1,000	T	D80/T04/T01/S01/S02/S06/T94															
100	K030	1,000	T	D80/T04/T01/S01/S02/S06/T94															
101	K031	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
102	K032	1,000	T	D80/T04/T01/S01/S02/S06/T94															
103	K033	1,000	T	D80/T04/T01/S01/S02/S06/T94															
104	K034	1,000	T	D80/T04/T01/S01/S02/S06/T94															
105	K035	1,000	T	D80/T04/T01/S01/S02/S06/T94															
106	K036	1,000	T	D80/T04/T01/S01/S02/S06/T94															
107	K037	1,000	T	D80/T04/T01/S01/S02/S06/T94															
108	K038	1,000	T	D80/T04/T01/S01/S02/S06/T94															
109	K039	1,000	T	D80/T04/T01/S01/S02/S06/T94															
110	K040	1,000	T	D80/T04/T01/S01/S02/S06/T94															
111	K041	1,000	T	D80/T04/T01/S01/S02/S06/T94															
112	K042	1,000	T	D80/T04/T01/S01/S02/S06/T94															
113	K043	1,000	T	D80/T04/T01/S01/S02/S06/T94															
114	K044	10,000	T	D80/T04/T01/S01/S02/S06/T94															
115	K045	10,000	T	D80/T04/T01/S01/S02/S06/T94															
116	K046	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
117	K047	10,000	T	D80/T04/T01/S01/S02/S06/T94															
118	K048	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
119	K049	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
120	K050	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from Page 1)

N | V | T | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0

XIV. Description of Hazardous Wastes (Continued)

EPA HAZARDOUS WASTE ID (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNITS MEASURE (Enter Code)	D: Process	
			1) PROCESS CODES (Enter Code)	2) Process Description (If Code 2 is not entered, enter D-1)
121	K051	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
122	K052	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
123	K060	5000	T	D80/T04/T01/S01/S02/S06/T94
124	K061	5000	T	D80/T04/T01/S01/S02/S06/T94/X02
125	K062	5000	T	D80/T04/T01/S01/S02/S06/T94/X02
126	K064	10,000	T	D80/T04/T01/S01/S02/S06/T94
127	K065	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
128	K066	10,000	T	D80/T04/T01/S01/S02/S06/T94
129	K069	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
130	K071	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
131	K073	1,000	T	D80/T04/T01/S01/S02/S06/T94
132	K083	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
133	K084	1,000	T	D80/T04/T01/S01/S02/S06/T94
134	K085	1,000	T	D80/T04/T01/S01/S02/S06/T94
135	K086	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
136	K087	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02
137	K088	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02
138	K090	10,000	T	D80/T04/T01/S01/S02/S06/T94
139	K091	10,000	T	D80/T04/T01/S01/S02/S06/T94
140	K093	1,000	T	D80/T04/T01/S01/S02/S06/T94
141	K094	1,000	T	D80/T04/T01/S01/S02/S06/T9
142	K095	1,000	T	D80/T04/T01/S01/S02/S06/T94
143	K096	1,000	T	D80/T04/T01/S01/S02/S06/T94
144	K097	1,000	T	D80/T04/T01/S01/S02/S06/T94

EPA ID Number (Enter from Page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV: Description of Hazardous Wastes (Continued)																			
Line Number	A/EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	PROCESS CODES (Enter Code)	Process Description (If a code is not entered in 4.1)														
145	K098	1,000	T	D80/T04/T01/S01/S02/S06/T94															
146	K099	1,000	T	D80/T04/T01/S01/S02/S06/T94															
147	K100	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
148	K101	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
149	K102	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
150	K103	1,000	T	D80/T04/T01/S01/S02/S06/T94															
151	K104	1,000	T	D80/T04/T01/S01/S02/S06/T94															
152	K105	1,000	T	D80/T04/T01/S01/S02/S06/T94															
153	K106	1,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
154	K107	10,000	T	D80/T04/T01/S01/S02/S06/T94															
155	K108	10,000	T	D80/T04/T01/S01/S02/S06/T94															
156	K109	10,000	T	D80/T04/T01/S01/S02/S06/T94															
157	K110	10,000	T	D80/T04/T01/S01/S02/S06/T94															
158	K111	5,000	T	D80/T04/T01/S01/S02/S06/T94															
159	K112	5,000	T	D80/T04/T01/S01/S02/S06/T94															
160	K113	1,000	T	D80/T04/T01/S01/S02/S06/T94															
161	K114	1,000	T	D80/T04/T01/S01/S02/S06/T94															
162	K115	1,000	T	D80/T04/T01/S01/S02/S06/T94															
163	K116	1,000	T	D80/T04/T01/S01/S02/S06/T94															
164	K117	1,000	T	D80/T04/T01/S01/S02/S06/T94															
165	K118	1,000	T	D80/T04/T01/S01/S02/S06/T94															
166	K123	1,000	T	D80/T04/T01/S01/S02/S06/T94															
167	K124	1,000	T	D80/T04/T01/S01/S02/S06/T94															
168	K125	1,000	T	D80/T04/T01/S01/S02/S06/T94															
169	K126	1,000	T	D80/T04/T01/S01/S02/S06/T94															



EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N V T 3 3 0 0 1 0 0 0 0

XIV Description of Hazardous Waste (Continued)

Line Number	EPA Hazardous Waste No. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	PROCESS CODES (Enter Code)	Process Description (If a code is not entered in D1)
170	K131	10,000	T	D80/T04/T01/S01/S02/S06/T94	
171	K132	10,000	T	D80/T04/T01/S01/S02/S06/T94	
172	K136	1,000	T	D80/T04/T01/S01/S02/S06/T94	
173	K141	10,000	T	D80/T04/T01/S01/S02/S06/T94	
174	K142	10,000	T	D80/T04/T01/S01/S02/S06/T94	
175	K143	10,000	T	D80/T04/T01/S01/S02/S06/T94	
176	K144	10,000	T	D80/T04/T01/S01/S02/S06/T94	
177	K145	10,000	T	D80/T04/T01/S01/S02/S06/T94	
178	K147	10,000	T	D80/T04/T01/S01/S02/S06/T94	
179	K148	10,000	T	D80/T04/T01/S01/S02/S06/T94	
180	K149	10,000	T	D80/T04/T01/S01/S02/S06/T94	
181	K150	10,000	T	D80/T04/T01/S01/S02/S06/T94	
182	K151	10,000	T	D80/T04/T01/S01/S02/S06/T94	
183	P001	10,000	T	D80/T04/T01/S01/S02/S06/T94	
184	P002	10,000	T	D80/T04/T01/S01/S02/S06/T94	
185	P003	10,000	T	D80/T04/T01/S01/S02/S06/T94	
186	P004	10,000	T	D80/T04/T01/S01/S02/S06/T94	
187	P005	10,000	T	D80/T04/T01/S01/S02/S06/T94	
188	P006	10,000	T	D80/T04/T01/S01/S02/S06/T94	
189	P007	10,000	T	D80/T04/T01/S01/S02/S06/T94	
190	P008	10,000	T	D80/T04/T01/S01/S02/S06/T94	
191	P009	50,000	T	D80/T04/T01/S01/S02/S06/T94	

N	V	T	3	3	0	0	1	0	0	0	0
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## XIV: Description of Hazardous Waste (Continued)

Site Number	A: EPA HAZARDOUS WASTE NO. (EPA Code)	B: ESTIMATED ANNUAL QUANTITY OF WASTE	C: LINE OF MEASURE (Direction)	D: Process	
				1: PROCESS CODES (EPA Code)	2: Process Description (If a code is not entered, fill in "T")
192	P010	10,000	T	D80/T04/T01/S01/S02/S06/T94	
193	P011	10,000	T	D80/T04/T01/S01/S02/S06/T94	
194	P012	10,000	T	D80/T04/T01/S01/S02/S06/T94	
195	P013	10,000	T	D80/T04/T01/S01/S02/S06/T94	
196	P014	10,000	T	D80/T04/T01/S01/S02/S06/T94	
197	P015	10,000	T	D80/T04/T01/S01/S02/S06/T94	
198	P016	10,000	T	D80/T04/T01/S01/S02/S06/T94	
199	P017	10,000	T	D80/T04/T01/S01/S02/S06/T94	
200	P018	10,000	T	D80/T04/T01/S01/S02/S06/T94	
201	P020	10,000	T	D80/T04/T01/S01/S02/S06/T94	
202	P021	10,000	T	D80/T04/T01/S01/S02/S06/T94	
203	P022	50,000	T	D80/T04/T01/S01/S02/S06/T94	
204	P023	10,000	T	D80/T04/T01/S01/S02/S06/T94	
205	P024	10,000	T	D80/T04/T01/S01/S02/S06/T94	
206	P026	10,000	T	D80/T04/T01/S01/S02/S06/T94	
207	P027	10,000	T	D80/T04/T01/S01/S02/S06/T94	
208	P029	10,000	T	D80/T04/T01/S01/S02/S06/T94	
209	P030	10,000	T	D80/T04/T01/S01/S02/S06/T94	
210	P031	50,000	T	D80/T04/T01/S01/S02/S06/T94	
211	P033	10,000	T	D80/T04/T01/S01/S02/S06/T94	
212	P034	10,000	T	D80/T04/T01/S01/S02/S06/T94	
213	P036	50,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
214	P037	10,000	T	D80/T04/T01/S01/S02/S06/T94	
215	P038	10,000	T	D80/T04/T01/S01/S02/S06/T94	
216	P039	10,000	T	D80/T04/T01/S01/S02/S06/T94	

Secondary ID Num: Sec (Letter from Page 1)

[illegible]

1. *Journal of Management Studies*, 1996, 33, 1, 1-14.

Line Number	A. EPA Hazardous Waste No. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter Code)	D. Process	
				(1) Process Codes (Enter Code)	(2) Process Description (If a code is not entered, fill in)
217	P040	10,000	T	D80/T04/T01/S01/S02/S06/T94	
218	P041	10,000	T	D80/T04/T01/S01/S02/S06/T94	
219	P042	10,000	T	D80/T04/T01/S01/S02/S06/T94	
220	P043	10,000	T	D80/T04/T01/S01/S02/S06/T94	
221	P044	10,000	T	D80/T04/T01/S01/S02/S06/T94	
222	P045	10,000	T	D80/T04/T01/S01/S02/S06/T94	
223	P046	10,000	T	D80/T04/T01/S01/S02/S06/T94	
224	P047	10,000	T	D80/ T04/T01/S01/S02/S06/T94	
225	P048	10,000	T	D80/T04/T01/S01/S02/S06/T94	
226	P049	10,000	T	D80/T04/T01/S01/S02/S06/T94	
227	P050	10,000	T	D80/T04/T01/S01/S02/S06/T94	
228	P051	10,000	T	D80/T04/T01/S01/S02/S06/T94	
229	P054	10,000	T	D80/T04/T01/S01/S02/S06/T94	
230	P056	50000	T	D80/T04/T01/S01/S02/S06/T94	
231	P057	10,000	T	D80/T04/T01/S01/S02/S06/T94	
232	P058	10,000	T	D80/T04/T01/S01/S02/S06/T94	
233	P059	10,000	T	D80/T04/T01/S01/S02/S06/T94	
234	P060	10,000	T	D80/T04/T01/S01/S02/S06/T94	
235	P062	10,000	T	D80/T04/T01/S01/S02/S06/T94	
236	P063	10,000	T	D80/T04/T01/S01/S02/S06/T94	
237	P064	10,000	T	D80/T04/T01/S01/S02/S06/T94	
238	P065	50,000	T	D80/T04/T01/S01/S02/S06/T94	
239	P066	10,000	T	D80/T04/T01/S01/S02/S06/T94	
240	P067	10,000	T	D80/T04/T01/S01/S02/S06/T94	
241	P068	50,000	T	D80/T04/T01/S01/S02/S06/T94	

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from Page 1)

N | V | T | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0

XIV Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	D. Process	
				1. PROCESS CODES (Enter Code)	2. Process Description (If a code is not entered in 1.47)
242	P069	10,000	T	D80/T04/T01/S01/S02/S06/T94	
243	P070	10,000	T	D80/T04/T01/S01/S02/S06/T94	
244	P071	10,000	T	D80/T04/T01/S01/S02/S06/T94	
245	P072	10,000	T	D80/T04/T01/S01/S02/S06/T94	
246	P073	10,000	T	D80/T04/T01/S01/S02/S06/T94	
247	P074	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
248	P075	10,000	T	D80/T04/T01/S01/S02/S06/T94	
249	P076	50,000	T	D80/T04/T01/S01/S02/S06/T94	
250	P077	10,000	T	D80/T04/T01/S01/S02/S06/T94	
251	P078	50,000	T	D80/T04/T01/S01/S02/S06/T94	
252	P081	50,000	T	D80/T04/T01/S01/S02/S06/T94	
253	P082	10,000	T	D80/T04/T01/S01/S02/S06/T94	
254	P084	10,000	T	D80/T04/T01/S01/S02/S06/T94	
255	P085	10,000	T	D80/T04/T01/S01/S02/S06/T94	
256	P087	50,000	T	D80/T04/T01/S01/S02/S06/T94	
257	P088	10,000	T	D80/T04/T01/S01/S02/S06/T94	
258	P089	10,000	T	D80/T04/T01/S01/S02/S06/T94	
259	P092	10,000	T	D80/T04/T01/S01/S02/S06/T94	
260	P093	10,000	T	D80/T04/T01/S01/S02/S06/T94	
261	P094	10,000	T	D80/T04/T01/S01/S02/S06/T94	
262	P095	50,000	T	D80/T04/T01/S01/S02/S06/T94	
263	P096	10,000	T	D80/T04/T01/S01/S02/S06/T94	
264	P097	10,000	T	D80/T04/T01/S01/S02/S06/T94	
265	P098	10,000	T	D80/T04/T01/S01/S02/S06/T94	
266	P099	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV. Description of Hazardous Waste (Continued)																			
Line Number	EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (LBS, TON)	PROCESS															
				(1) PROCESS CODES (See 40 CFR 261.24)	(2) Process Description (If a code is not entered in (1), (2) must be entered in (4))														
267	P101	10,000	T	D80/T04/T01/S01/S02/S06/T94															
268	P102	10,000	T	D80/T04/T01/S01/S02/S06/T94															
269	P103	50,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
270	P104	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
271	P105	50,000	T	D80/T04/T01/S01/S02/S06/T94															
272	P106	10,000	T	D80/T04/T01/S01/S02/S06/T94															
273	P108	10,000	T	D80/T04/T01/S01/S02/S06/T94															
274	P109	10,000	T	D80/T04/T01/S01/S02/S06/T94															
275	P110	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
276	P111	10,000	T	D80/T04/T01/S01/S02/S06/T94															
277	P112	50,000	T	D80/T04/T01/S01/S02/S06/T94															
278	P113	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
279	P114	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
280	P115	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
281	P116	10,000	T	D80/T04/T01/S01/S02/S06/T94															
282	P118	10,000	T	D80/T04/T01/S01/S02/S06/T94															
283	P119	10,000	T	D80/T04/T01/S01/S02/S06/T94															
284	P120	10,000	T	D80/T04/T01/S01/S02/S06/T94															
285	P121	10,000	T	D80/T04/T01/S01/S02/S06/T94															
286	P122	10,000	T	D80/T04/T01/S01/S02/S06/T94															
287	P123	10,000	T	D80/T04/T01/S01/S02/S06/T94															
288	U001	10,000	T	D80/T04/T01/S01/S02/S06/T94															
289	U002	10,000	T	D80/T04/T01/S01/S02/S06/T94															
290	U003	10,000	T	D80/ T04/T01/S01/S02/S06/T94															
291	U004	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from Page 1)

N | V | T | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0

XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA Hazardous Waste No. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	B. PROCESS CODES (Enter Code) (If a code is not entered in CH1)
292	U005	10,000	T	D80/T04/T01/S01/S02/S06/T94
293	U006	50,000	T	D80/T04/T01/S01/S02/S06/T94
294	U007	10,000	T	D80/T04/T01/S01/S02/S06/T94
295	U008	10,000	T	D80/T04/T01/S01/S02/S06/T94
296	U009	10,000	T	D80/T04/T01/S01/S02/S06/T94
297	U010	10,000	T	D80/T04/T01/S01/S02/S06/T94
298	U011	10,000	T	D80/T04/T01/S01/S02/S06/T94
299	U012	10,000	T	D80/T04/T01/S01/S02/S06/T94
300	U014	10,000	T	D80/T04/T01/S01/S02/S06/T94
301	U015	10,000	T	D80/T04/T01/S01/S02/S06/T94
302	U016	10,000	T	D80/T04/T01/S01/S02/S06/T94
303	U017	10,000	T	D80/T04/T01/S01/S02/S06/T94
304	U018	10,000	T	D80/T04/T01/S01/S02/S06/T94
305	U019	10,000	T	D80/T04/T01/S01/S02/S06/T94
306	U020	50,000	T	D80/T04/T01/S01/S02/S06/T94
307	U021	10,000	T	D80/T04/T01/S01/S02/S06/T94
308	U022	10,000	T	D80/T04/T01/S01/S02/S06/T94
309	U023	50,000	T	D80/T04/T01/S01/S02/S06/T94
310	U024	10,000	T	D80/T04/T01/S01/S02/S06/T94
311	U025	10,000	T	D80/T04/T01/S01/S02/S06/T94
312	U026	10,000	T	D80/T04/T01/S01/S02/S06/T94
313	U027	10,000	T	D80/T04/T01/S01/S02/S06/T94
314	U028	10,000	T	D80/T04/T01/S01/S02/S06/T94
315	U029	50,000	T	D80/T04/T01/S01/S02/S06/T94
316	U030	10,000	T	D80/T04/T01/S01/S02/S06/T94

Primary ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N   V   T   3   3   0   0   1   0   0   0   0																			
XIV. Description of Hazardous Waste (Continued)																			
Line Number	HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	D-Process CODES (Enter Code)	D-Process Description (If a code is not entered in D-1)														
317	U031	10,000	T	D80/T04/T01/S01/S02/S06/T94															
318	U032	10,000	T	D80/T04/T01/S01/S02/S06/T94															
319	U033	50,000	T	D80/T04/T01/S01/S02/S06/T94															
320	U034	10,000	T	D80/T04/T01/S01/S02/S06/T94															
321	U035	10,000	T	D80/T04/T01/S01/S02/S06/T94															
322	U036	10,000	T	D80/T04/T01/S01/S02/S06/T94															
323	U037	10,000	T	D80/T04/T01/S01/S02/S06/T94															
324	U038	10,000	T	D80/T04/T01/S01/S02/S06/T94															
325	U039	10,000	T	D80/T04/T01/S01/S02/S06/T94															
326	U041	10,000	T	D80/T04/T01/S01/S02/S06/T94															
327	U042	10,000	T	D80/T04/T01/S01/S02/S06/T94															
328	U043	50,000	T	D80/T04/T01/S01/S02/S06/T94															
329	U044	10,000	T	D80/T04/T01/S01/S02/S06/T94															
330	U045	10,000	T	D80/T04/T01/S01/S02/S06/T94															
331	U046	10,000	T	D80/T04/T01/S01/S02/S06/T94															
332	U047	10,000	T	D80/T04/T01/S01/S02/S06/T94															
333	U048	10,000	T	D80/T04/T01/S01/S02/S06/T94															
334	U049	10,000	T	D80/T04/T01/S01/S02/S06/T94															
335	U050	10,000	T	D80/T04/T01/S01/S02/S06/T94															
336	U051	10,000	T	D80/T04/T01/S01/S02/S06/T94															
337	U052	10,000	T	D80/T04/T01/S01/S02/S06/T94															
338	U053	10,000	T	D80/T04/T01/S01/S02/S06/T94															
339	U055	10,000	T	D80/T04/T01/S01/S02/S06/T94															
340	U056	10,000	T	D80/T04/T01/S01/S02/S06/T94															
341	U057	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)

N V T 3 3 0 0 1 0 0 0 0

XIV. Description of Hazardous Wastes (Continued)

Line Number	EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	TREATMENT MEASURE (Enter Code)	PROCESS CODES (Enter Code) Process Description (If a Code is not entered in D-1)
342	U058	10,000	T	D80/T04/T01/S01/S02/S06/T94
343	U059	10,000	T	D80/T04/T01/S01/S02/S06/T94
344	U060	10,000	T	D80/T04/T01/S01/S02/S06/T94
345	U061	10,000	T	D80/T04/T01/S01/S02/S06/T94
346	U062	10,000	T	D80/T04/T01/S01/S02/S06/T94
347	U063	10,000	T	D80/T04/T01/S01/S02/S06/T94
348	U064	10,000	T	D80/T04/T01/S01/S02/S06/T94
349	U066	10,000	T	D80/T04/T01/S01/S02/S06/T94
350	U067	10,000	T	D80/T04/T01/S01/S02/S06/T94
351	U068	10,000	T	D80/T04/T01/S01/S02/S06/T94
352	U069	50,000	T	D80/T04/T01/S01/S02/S06/T94
353	U070	10,000	T	D80/T04/T01/S01/S02/S06/T94
354	U071	10,000	T	D80/T04/T01/S01/S02/S06/T94
355	U072	10,000	T	D80/T04/T01/S01/S02/S06/T94
356	U073	10,000	T	D80/T04/T01/S01/S02/S06/T94
357	U074	10,000	T	D80/T04/T01/S01/S02/S06/T94
358	U075	50,000	T	D80/T04/T01/S01/S02/S06/T94
359	U076	10,000	T	D80/T04/T01/S01/S02/S06/T94
360	U077	10,000	T	D80/T04/T01/S01/S02/S06/T94
361	U078	10,000	T	D80/T04/T01/S01/S02/S06/T94
362	U079	10,000	T	D80/T04/T01/S01/S02/S06/T94
363	U080	10,000	T	D80/T04/T01/S01/S02/S06/T94
364	U081	10,000	T	D80/T04/T01/S01/S02/S06/T94
365	U082	10,000	T	D80/T04/T01/S01/S02/S06/T94
366	U083	10,000	T	D80/T04/T01/S01/S02/S06/T94



EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV: Description of Hazardous Wastes (Continued)																			
Line Number	HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	PROCESS CODES (Enter Code)	Process Description (If a code is not entered in H1)														
367	U084	10,000	T	D80/T04/T01/S01/S02/S06/T94															
368	U085	10,000	T	D80/T04/T01/S01/S02/S06/T94															
369	U086	50,000	T	D80/T04/T01/S01/S02/S06/T94															
370	U087	10,000	T	D80/T04/T01/S01/S02/S06/T94															
371	U088	10,000	T	D80/T04/T01/S01/S02/S06/T94															
372	U089	10,000	T	D80/T04/T01/S01/S02/S06/T94															
373	U090	10,000	T	D80/T04/T01/S01/S02/S06/T94															
374	U091	10,000	T	D80/T04/T01/S01/S02/S06/T94															
375	U092	10,000	T	D80/T04/T01/S01/S02/S06/T94															
376	U093	10,000	T	D80/T04/T01/S01/S02/S06/T94															
377	U094	10,000	T	D80/T04/T01/S01/S02/S06/T94															
378	U095	10,000	T	D80/T04/T01/S01/S02/S06/T94															
379	U096	50,000	T	D80/T04/T01/S01/S02/S06/T94															
380	U097	50,000	T	D80/T04/T01/S01/S02/S06/T94															
381	U098	10,000	T	D80/T04/T01/S01/S02/S06/T94															
382	U099	10,000	T	D80/T04/T01/S01/S02/S06/T94															
383	U101	10,000	T	D80/T04/T01/S01/S02/S06/T94															
384	U102	10,000	T	D80/T04/T01/S01/S02/S06/T94															
385	U103	10,000	T	D80/T04/T01/S01/S02/S06/T94															
386	U105	10,000	T	D80/T04/T01/S01/S02/S06/T94															
387	U106	10,000	T	D80/T04/T01/S01/S02/S06/T94															
388	U107	10,000	T	D80/T04/T01/S01/S02/S06/T94															
389	U108	50,000	T	D80/T04/T01/S01/S02/S06/T94															
390	U109	50,000	T	D80/T04/T01/S01/S02/S06/T94															
391	U110	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0									
XIV. Description of Hazardous Wastes (Continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNITS OF MEASURE (Enter Code)	D. Process															
				PROCESS CODES (Enter Code)	Process Description (If code is not entered in D)														
392	U111	10,000	T	D80/T04/T01/S01/S02/S06/T94															
393	U112	10,000	T	D80/T04/T01/S01/S02/S06/T94															
394	U113	10,000	T	D80/T04/T01/S01/S02/S06/T94															
395	U114	10,000	T	D80/T04/T01/S01/S02/S06/T94															
396	U115	50,000	T	D80/T04/T01/S01/S02/S06/T94															
397	U116	10,000	T	D80/T04/T01/S01/S02/S06/T94															
398	U117	10,000	T	D80/T04/T01/S01/S02/S06/T94															
399	U118	10,000	T	D80/T04/T01/S01/S02/S06/T94															
400	U119	10,000	T	D80/T04/T01/S01/S02/S06/T94															
401	U120	10,000	T	D80/T04/T01/S01/S02/S06/T94															
402	U121	10,000	T	D80/T04/T01/S01/S02/S06/T94															
403	U122	10,000	T	D80/T04/T01/S01/S02/S06/T94															
404	U123	10,000	T	D80/T04/T01/S01/S02/S06/T94															
405	U124	10,000	T	D80/T04/T01/S01/S02/S06/T94															
406	U125	10,000	T	D80/T04/T01/S01/S02/S06/T94															
407	U126	10,000	T	D80/T04/T01/S01/S02/S06/T94															
408	U127	10,000	T	D80/T04/T01/S01/S02/S06/T94															
409	U128	10,000	T	D80/T04/T01/S01/S02/S06/T94															
410	U129	10,000	T	D80/T04/T01/S01/S02/S06/T94															
411	U130	10,000	T	D80/T04/T01/S01/S02/S06/T94															
412	U131	10,000	T	D80/T04/T01/S01/S02/S06/T94															
413	U132	10,000	T	D80/T04/T01/S01/S02/S06/T94															
414	U133	50,000	T	D80/T04/T01/S01/S02/S06/T94															
415	U134	10,000	T	D80/T04/T01/S01/S02/S06/T94															
416	U135	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV. Description of Hazardous Wastes (Continued)																			
List Number	A-EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	Process															
				(1) PROCESS CODES (Enter Code)	(2) Process Description (If a code is not entered, enter "D")														
417	U136	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
418	U137	50,000	T	D80/T04/T01/S01/S02/S06/T94															
419	U138	10,000	T	D80/T04/T01/S01/S02/S06/T94															
420	U140	10,000	T	D80/T04/T01/S01/S02/S06/T94															
421	U141	10,000	T	D80/T04/T01/S01/S02/S06/T94															
422	U142	10,000	T	D80/T04/T01/S01/S02/S06/T94															
423	U143	10,000	T	D80/T04/T01/S01/S02/S06/T94															
424	U144	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
425	U145	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
426	U146	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
427	U147	10,000	T	D80/T04/T01/S01/S02/S06/T94															
428	U148	10,000	T	D80/T04/T01/S01/S02/S06/T94															
429	U149	10,000	T	D80/T04/T01/S01/S02/S06/T94															
430	U150	10,000	T	D80/T04/T01/S01/S02/S06/T94															
431	U151	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
432	U152	10,000	T	D80/T04/T01/S01/S02/S06/T94															
433	U153	50,000	T	D80/T04/T01/S01/S02/S06/T94															
434	U154	10,000	T	D80/T04/T01/S01/S02/S06/T94															
435	U155	10,000	T	D80/T04/T01/S01/S02/S06/T94															
436	U156	10,000	T	D80/T04/T01/S01/S02/S06/T94															
437	U157	10,000	T	D80/T04/T01/S01/S02/S06/T94															
438	U158	10,000	T	D80/T04/T01/S01/S02/S06/T94															
439	U159	10,000	T	D80/T04/T01/S01/S02/S06/T94															
440	U160	50,000	T	D80/T04/T01/S01/S02/S06/T94															
441	U161	10,000	T	D80/T04/T01/S01/S02/S06/T94															

Please print or type with left margin.

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N V T 3 3 0 0 1 0 0 0 0																			
XIV. Description of Hazardous Wastes (Continued)																			
EPA HAZARDOUS WASTE NO. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIQUE MEASURE (Enter Code)	PROCESS																
			1. PROCESS CODES (Enter Code)	2. PROCESS DESCRIPTION (If Code is not entered, describe)															
442	U162	10,000	T	D80/T04/T01/S01/S02/S06/T94															
443	U163	50,000	T	D80/T04/T01/S01/S02/S06/T94															
444	U164	10,000	T	D80/T04/T01/S01/S02/S06/T94															
445	U165	10,000	T	D80/T04/T01/S01/S02/S06/T94															
446	U166	10,000	T	D80/T04/T01/S01/S02/S06/T94															
447	U167	10,000	T	D80/T04/T01/S01/S02/S06/T94															
448	U168	10,000	T	D80/T04/T01/S01/S02/S06/T94															
449	U169	10,000	T	D80/T04/T01/S01/S02/S06/T94															
450	U170	10,000	T	D80/T04/T01/S01/S02/S06/T94															
451	U171	10,000	T	D80/T04/T01/S01/S02/S06/T94															
452	U172	10,000	T	D80/T04/T01/S01/S02/S06/T94															
453	U173	10,000	T	D80/T04/T01/S01/S02/S06/T94															
454	U174	10,000	T	D80/T04/T01/S01/S02/S06/T94															
455	U176	50,000	T	D80/T04/T01/S01/S02/S06/T94															
456	U177	50,000	T	D80/T04/T01/S01/S02/S06/T94															
457	U178	10,000	T	D80/T04/T01/S01/S02/S06/T94															
458	U179	10,000	T	D80/T04/T01/S01/S02/S06/T94															
459	U180	10,000	T	D80/T04/T01/S01/S02/S06/T94															
460	U181	10,000	T	D80/T04/T01/S01/S02/S06/T94															
461	U182	10,000	T	D80/T04/T01/S01/S02/S06/T94															
462	U183	10,000	T	D80/T04/T01/S01/S02/S06/T94															
463	U184	10,000	T	D80/T04/T01/S01/S02/S06/T94															
464	U185	10,000	T	D80/T04/T01/S01/S02/S06/T94															
465	U186	10,000	T	D80/T04/T01/S01/S02/S06/T94															
466	U187	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from Page 1)

N | V | T | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0

XIV Description of Hazardous Wastes (Continued)

Line Number	HAZARDOUS WASTE NO (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	PROCESS	
				PROCESS CODES (Enter Code)	Process Description (If code is not entered in 4-1)
467	U188	10,000	T	D80/T04/T01/S01/S02/S06/T94	
468	U189	50,000	T	D80/T04/T01/S01/S02/S06/T94	
469	U190	10,000	T	D80/T04/T01/S01/S02/S06/T94	
470	U191	10,000	T	D80/T04/T01/S01/S02/S06/T94	
471	U192	10,000	T	D80/T04/T01/S01/S02/S06/T94	
472	U193	10,000	T	D80/T04/T01/S01/S02/S06/T94	
473	U194	10,000	T	D80/T04/T01/S01/S02/S06/T94	
474	U196	10,000	T	D80/T04/T01/S01/S02/S06/T94	
475	U197	10,000	T	D80/T04/T01/S01/S02/S06/T94	
476	U200	10,000	T	D80/T04/T01/S01/S02/S06/T94	
477	U201	10,000	T	D80/T04/T01/S01/S02/S06/T94	
478	U202	10,000	T	D80/T04/T01/S01/S02/S06/T94	
479	U203	10,000	T	D80/T04/T01/S01/S02/S06/T94	
480	U204	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
481	U205	50,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
482	U206	10,000	T	D80/T04/T01/S01/S02/S06/T94	
483	U207	10,000	T	D80/T04/T01/S01/S02/S06/T94	
484	U208	10,000	T	D80/T04/T01/S01/S02/S06/T94	
485	U209	10,000	T	D80/T04/T01/S01/S02/S06/T94	
486	U210	10,000	T	D80/T04/T01/S01/S02/S06/T94	
487	U211	10,000	T	D80/T04/T01/S01/S02/S06/T94	
488	U213	10,000	T	D80/T04/T01/S01/S02/S06/T94	
489	U214	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
490	U215	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	
491	U216	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02	

EPA ID Number (Enter from page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0									
XIV Description of Hazardous Waste (Continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (Enter Code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter Code)	D. PROCESS CODES (Enter Code)	E. Process Description (If a code is not entered in D)														
492	U217	10,000	T	D80/T04/T01/S01/S02/S06/T94/X02															
493	U218	10,000	T	D80/T04/T01/S01/S02/S06/T94															
494	U219	10,000	T	D80/T04/T01/S01/S02/S06/T94															
495	U220	10,000	T	D80/T04/T01/S01/S02/S06/T94															
496	U221	10,000	T	D80/T04/T01/S01/S02/S06/T94															
497	U222	10,000	T	D80/T04/T01/S01/S02/S06/T94															
498	U223	50,000	T	D80/T04/T01/S01/S02/S06/T94															
499	U225	10,000	T	D80/T04/T01/S01/S02/S06/T94															
500	U226	10,000	T	D80/T04/T01/S01/S02/S06/T94															
501	U227	10,000	T	D80/T04/T01/S01/S02/S06/T94															
502	U228	10,000	T	D80/T04/T01/S01/S02/S06/T94															
503	U234	50,000	T	D80/T04/T01/S01/S02/S06/T94															
504	U235	10,000	T	D80/T04/T01/S01/S02/S06/T94															
505	U236	10,000	T	D80/T04/T01/S01/S02/S06/T94															
506	U237	10,000	T	D80/T04/T01/S01/S02/S06/T94															
507	U238	10,000	T	D80/T04/T01/S01/S02/S06/T94															
508	U239	10,000	T	D80/T04/T01/S01/S02/S06/T94															
509	U240	10,000	T	D80/T04/T01/S01/S02/S06/T94															
510	U243	10,000	T	D80/T04/T01/S01/S02/S06/T94															
511	U244	10,000	T	D80/T04/T01/S01/S02/S06/T94															
512	U246	10,000	T	D80/T04/T01/S01/S02/S06/T94															
513	U247	10,000	T	D80/T04/T01/S01/S02/S06/T94															
514	U248	10,000	T	D80/T04/T01/S01/S02/S06/T94															
515	U249	10,000	T	D80/T04/T01/S01/S02/S06/T94															
516	U328	10,000	T	D80/T04/T01/S01/S02/S06/T94															

EPA ID Number (Enter from Page 1)										Secondary ID Number (Enter from Page 1)									
N	V	T	3	3	0	0	1	0	0	0	0								
XIV Description of Hazardous Wastes (Continued)																			
Site Number	EPA Hazardous Waste No. (Enter Code)	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (Enter Code)	PROCESS CODES (Enter Code)															
				Process Description (If a code is not entered, enter description)															
517	U353	10,000	T	D80/T04/T01/S01/S02/S06/T94															
518	U359	10,000	T	D80/T04/T01/S01/S02/S06/T94															



TO MARKO  
FOR ALEX ~~W~~ISLEY

## FAX COVER SHEET

DATE: 3/9/99

TO: Erick

FAX NO: (800) 482-2272

FROM: Juan

FAX NO: 760-351-4025

PHONE NO: 760-344-9400

NUMBER OF PAGES INCLUDING COVER SHEET ( )

RE:

This is a copy of all of our acceptance  
codes.

Safety-Kleen (Westmorland), Inc

5295 South Garvey Road • P.O. Box 158 • Westmorland, CA 92281



EPA Hazardous Waste Facility Permit  
 Safety-Kleen (Westmorland), Inc.

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TABLE 1

List of Acceptable Waste Codes for the Stabilization Treatment Unit (STU), Drum storage Area (DSA), Small Quantity Generator (SQG) and Lab Pack Building (LPB), and Landfills LC-2, LC-3, LC-4, and LC-5

EPA Waste Codes

D001	D023**	F002*	K004*	K027*	K050*	K095**	K124**
D002	D024**	F003*	K005*	K028*	K051*	K096*	K125**
D003	D025**	F004*	K006*	K029*	K052*	K097*	K131
D004*	D026**	F005*	K007*	K030*	K060*	K098*	K132
D005	D027**	F006*	K008*	K031*	K061*	K098*	K136*
D006	D028**	F007*	K009*	K032*	K062*	K101*	
D007	D029**	F008*	K010*	K033*	K064	K102*	K141
D008	D030**	F009*	K011*	K034*	K065	K103*	K142
D009*	D031**	F010*	K013*	K035*	K066	K106*	K143
D010	D032**	F011*	K014*	K036*	K069*	K107	K144
D011	D033**	F012*	K015*	K037*	K071*	K108	K145
D012*	D034**	F019*	K016*	K039*	K073*	K109	K146
D013*	D035**	F024*	K017*	K040*	K083*	K110	K147
D014*	D036**	F025*	K018*	K041*	K084*	K111*	K148
D015*	D037**	F032**	K019*	K042*	K085*	K112*	
D016*	D038**	F034	K020*	K043*	K086*	K113*	K156
D017*	D039**	F035	K021*	K044	K087*	K114*	K157
D018**	D040**	F037	K022*	K045*	K088	K115*	K158
D019**	D041**	F039	K023*	K046	K090	K116*	K159
D020**	D042**	K001*	K024*	K047	K091	K117**	K160
D021*	D043**	K002*	K025*	K048*	K093*	K118**	K161
D022*	F001*	K003*	K026*	K049*	K094*	K123**	

All P waste codes.

All U waste codes.

P - Waste codes as specified in 40 CFR 261.33(e)

U - Waste codes as specified in 40 CFR 261.33(f)

\* Land disposal restrictions in 40 CFR 268 (or non-RCRA treatment standards in CCR, Title 22, Articles 40 and 41, in the absence of EPA treatment standards) may require treatment other than stabilization (e.g., vitrification, incineration, etc.) of the wastewater and/or non-wastewater. Therefore, the Imperial Valley Facility may only stabilize treatment residues of these waste codes. Because treatment processes such as incineration handle multiple listed waste codes (e.g., F006, F024, K010, P077 and U004), the treatment residue may require stabilization to meet the most restrictive treatment standard (e.g., F024 treatment standard: incineration followed by stabilization).

EPA Hazardous Waste Facility Permit  
Safety-Kleen (Westmorland), Inc.

Due to the derived-from-rule (40 CFR 261.3(c)(2)), the treatment residues carry the original waste code or codes unless the treatment process incorporates an EPA approved delisting. The Imperial Valley Facility will retain copies of all notifications, certifications, and demonstrations received from generators or other storage, treatment, and/or disposal facilities (e.g., incinerators) that demonstrate compliance with all applicable land disposal restrictions (40 CFR 261.7(c)).

\*\* New RCRA Waste Codes - RCRA treatment standards not yet promulgated.

California Waste Codes

711	751*	135*	231*	311*	471	571
721	791	141	232*	322	481	581
722	792	151	241*	351*	491*	591
723	121	161	251*	352*	511*	611*
724	122	162	252*	411	512	612
725	123	171	271	421	513*	613
726	131	172	272*	431	521	
727	132	181	281	441	541	
728	133	222*	291*	451	551	
741*	134	223*	541	461	561	

\* The treatment technology proposed by the owner and/or operator, i.e., stabilization, may not be effective for these wastes with organic constituents.

---

The maximum annual quantity of hazardous waste accepted at the facility shall be 440,000 gross tons.

**FAX COVER SHEET**

DATE: 3/11/99

TO: ERICK

FAX NO: (909) 482-2272

FROM: Juan

FAX NO: 760-351-4025

PHONE NO: 760-344-9400

NUMBER OF PAGES INCLUDING COVER SHEET ( )

RE: COPY of Part A.

**Safety-Kleen (Westmorland), Inc**

5295 South Garvey Road • P.O. Box 158 • Westmorland, CA 92281

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

GSA No. Q246-EPA-QT

For EPA Regional Use Only		EPA United States Environmental Protection Agency Washington, DC 20460		For State Use Only	
Date Received Month Day Year		<b>Hazardous Waste Permit Application</b> <b>Part A</b> (Read the Instructions before starting)			
I. ID Number(s)		A. EPA ID Number			
C A D 0 0 0 6 3 3 1 6 4		B. Secondary ID Number (if applicable)			
II. Name of Facility		L A I D L A W E N V S V S ( I M P V L Y ) I N C			
III. Facility Location (Physical address not P.O. Box or Route Number)		A. Street			
5 2 9 5 S O U T H G A R V E Y R O A D		Street (continued)			
City or Town		State		ZIP Code	
W E S T M O R L A N D		C A		9 2 2 8 1 -	
County Code (if known)		County Name			
I M P E R I A L					
B. Land Type		C. Geographic Location		D. Facility Existence Date	
(enter code)		LATITUDE (degrees, minutes, & seconds)		LONGITUDE (degrees, minutes, & seconds)	
P		3 3 0 2 1 6 N		1 1 5 4 4 0 6 W	
Month		Day		Year	
1 2		2 6		1 9 8 0	
IV. Facility Mailing Address		Street or P.O. Box			
P O B O X 1 5 8		5 2 9 5 S O U T H G A R V E Y R D			
City or Town		State		ZIP Code	
W E S T M O R L A N D		C A		9 2 2 8 1 -	
V. Facility Contact (Person to be contacted regarding waste activities at facility)		Name (last)			
S H A W		(first)			
D A N N Y I.		Job Title			
V I C E P R E S I D E N T		Phone Number (area code and number)			
6 1 9 - 3 4 4 - 9 4 0 0		VI. Facility Contact Address (See instructions)			
A. Contact Address Location		B. Street or P.O. Box			
X					
City or Town		State		ZIP Code	

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GSA No. 3246 EPA 01

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)																	
C	A	D	0	0	0	6	3	3	1	6	4																		
VII. Operator Information (see instructions)																													
Name of Operator																													
L	A	I	D	L	A	W		E	N	V		S	V	S		(	I	M	P		V	L	Y	)		I	N	C	
Street or P.O. Box																													
P	O	B	O	X		1	5	8		5	2	9	5		S	O	U	T	H		G	A	R	V	E	Y		R	D
City or Town												State		ZIP Code															
W	E	S	T	M	O	R		L	A	N	D									C	A		9	2	2	8	1	-	
Phone Number (area code and number)												B. Operator Type		C. Change of Operator Indicator		Date Changed													
6	1	9	-	3	4	4	-	9	4	0	0	P	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Month	Day	Year	0	9	1	4	9	0				
VIII. Facility Owner (see instructions)																													
A. Name of Facility's Legal Owner																													
L	A	I	D	L	A	W		E	N	V	I	R	O	N	M	E	N	T	A	L		S	E	R	V	I	C	E	S
Street or P.O. Box																													
P	O	B	O	X		1	5	8		5	2	9	5		S	O	U	T	H		G	A	R	V	E	Y		R	D
City or Town												State		ZIP Code															
W	E	S	T	M	O	R		L	A	N	D									C	A		9	2	2	8	1	-	
Phone Number (area code and number)												B. Owner Type		C. Change of Owner Indicator		Date Changed													
6	1	9	-	3	4	4	-	9	4	0	0	P	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Month	Day	Year	0	9	1	4	9	0				
IX. SIC Codes (4-digit, in order of significance)																													
Primary												Secondary																	
4	9	5	3	(description) Refuse System													(description)												
Secondary												Secondary																	
9	5	1	1	(description) Air, Water, Solid Waste Management													(description)												
X. Other Environmental Permits (see instructions)																													
A. Permit Type (enter code)			B. Permit Number												C. Description														
	R		C	A	D	0	0	0	6	3	3	1	6	4	RCRA Hazardous Waste.														
	P		#	1	6	3	3	A							Imperial County APCD Permit.														
	E		8	8	-	4	5	/	8	9	-	0	4	1	RWQCB WDR Permits														
	E		8	8	-	5	4								RWQCB WDR Permits														
	E		1	3	-	0	0	0	1	-	8	0			DHS Hazardous Waste Facility Permit														
	E		9	5	7	-	9	0	A	&	B				Conditional Use Permit														

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(554) 0746.600A-11

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												

### XI. Nature of Business (provide a brief description)

The Imperial Valley Facility is a Class I disposal site engaged in the storage, treatment, and disposal of hazardous and non-hazardous waste.

### XII. Process - Codes and Design Capacities

**A. PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Twelve lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in Item XIII.

**B. PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.

1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process unit.

2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

**C. PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	UNIT OF MEASURE	UNIT OF MEASURE CODE
D79	<u>DISPOSAL:</u> INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY	GALLONS .....	G
D80	LANDFILL	ACRE-FEET OR HECTARE-METER	GALLONS PER HOUR .....	E
D81	LAND APPLICATION	ACRES OR HECTARES	GALLONS PER DAY .....	U
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY	LITERS .....	L
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS	LITERS PER HOUR .....	H
S01	<u>STORAGE:</u> CONTAINER	GALLONS OR LITERS	LITERS PER DAY .....	V
S02	(barrel, drum, etc.) TANK	GALLONS OR LITERS	SHORT TONS PER HOUR .....	D
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS	METRIC TONS PER HOUR .....	W
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS	SHORT TONS PER DAY .....	N
T01	<u>TREATMENT:</u> TANK	GALLONS PER DAY OR LITERS PER DAY	METRIC TONS PER DAY .....	S
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY	POUNDS PER HOUR .....	J
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS PER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR	KILOGRAMS PER HOUR .....	R
			CUBIC YARDS .....	Y
T04	<u>OTHER TREATMENT</u> (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundment or incinerators. Describe the processes in the space provided in Item XIII.)	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY	CUBIC METERS .....	C
			ACRES .....	B
			ACRE-FEET .....	A
			HECTARES .....	O
			HECTARE-METER .....	F
			BTU's PER HOUR .....	K

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EPA Form 8700-23 (01-90) EPA-OT

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												

## XII. Process - Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line Number	A. PROCESS CODE (from list above)			B. PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY				
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)						
X 1	S	0	2	500	G	0	0	2			
X 2	T	0	3	20	E	0	0	1			
1	S	0	1	79,039	G						
2	S	0	2	6,500	G						
3	D	8	0	2,592	A						
4	T	0	1	109,757 liquids + sludge	U						
5	T	0	1	116 Solids	D						
6	T	0	4	116	D						
7											
8											
9											
10											
11											
12											

NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in Item XIII.

## XIII. Additional Treatment Processes (follow instructions from Item XII)

Line Number (enter numbers in sequence with Item XII)	A. PROCESS CODE			B. TREATMENT PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS		
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				
	T	0	4	116	D	0	0	1	Waste stabilization in a <u>tank structure</u> using pozzolanic materials.
	T	0	4						
	T	0	4						
	T	0	4						

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Form 8700-23 GMB 110 2/89 222-6415 12-31 91  
GSA No. 2746 EPA OF

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												

**XIV. Description of Hazardous Wastes**

- A. **EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. **ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. **UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

**D. PROCESSES****1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that processes that characteristic or toxic contaminant.

**NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:**

- Enter the first two as described above.
- Enter "000" in the extreme right box of Item XIV-D(1).
- Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).

2. **PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

**NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER** - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

**EXAMPLE FOR COMPLETING ITEM XIV** (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESS	
				(1) PROCESS CODES (enter)	(2) PROCESS DESCRIPTION (if a code is not entered in D(1))
X 1	K 0 5 4	900	P	T 0 3 D 8 0	
X 2	D 0 0 2	400	P	T 0 3 D 8 0	
X 3	D 0 0 1	100	P	T 0 3 D 8 0	
X 4	D 0 0 2				Included With Above



Please print or type with ELITE type if it is available. Do not use unsharpened ballpoint pens.

החלטת הוועדה להעביר את המסמך למשרד המשפטים  
ב-1997

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DATE 02-05-2001 BY 60324 UCBAW

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)										
C	A	D	0	0	0	6	3	3	1	6	4									
XIV. Description of Hazardous Wastes (continued)																				
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE (lb)	C. UNIT OF MEASURE (enter code)	D. PROCESSES													
	(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if code 1 not entered in (1))									
	D	0	0	1	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	2	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	3	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	4	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	5	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	6	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	7	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	8	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	0	9	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	0	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	1	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	2	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	3	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	4	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								

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GSA No. 0248-EPA-OT

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)										
C	A	D	0	0	0	6	3	3	1	6	4									
XIV. Description of Hazardous Wastes (continued)																				
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)		B. ESTIMATED ANNUAL QUANTITY OF WASTE		C. UNIT OF MEASURE (enter code)		D. PROCESSES													
							(1) PROCESS CODES (enter)													
								(2) PROCESS DESCRIPTION (if a code is not entered in (1))												
	D	0	1	5	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	6	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	7	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	8	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	1	9	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	0	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	1	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	2	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	3	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	4	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	5	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	6	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	7	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								
	D	0	2	8	440,000	T	D	8	0	S	0	1	S	0	2					
							T	0	1	T	0	4								



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FORMS APPROVED. OMB No. 2030-0074 Expires 12-31-91  
GSA No. 0246-EPA-OT

[illegible]

## XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)		B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES							
	(1) PROCESS CODES (enter)	(2) PROCESS DESCRIPTION (if a code is not entered in D(1))										
1	D 0 4 3	440,000	T	D 8 0 S 0 1 S 0 2								
2				T 0 1 T 0 4								
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
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Form Approved GMB No. 2050-0034 Expires 12-31-81  
EPA No. 8248-EPA-01

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
C A D 0 0 0 6 3 3 1 6 4	

## XIV. Description of Hazardous Wastes (continued)

[illegible]









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CSA No. 0246-SPA-07

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV. Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	C. PROCESSES															
				(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if a code is not entered in (1))					
	K 0 6 9	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 7 1	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 7 3	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 8 3	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 8 4	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 8 5	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 8 6	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 8 7	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 9 3	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 9 4	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 9 5	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 9 6	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 0 9 7	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	K 1 0 1	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															

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Form Approved OMB No. 2050-0034 Expires 12-31-93  
GSA No. 02-48-EPA-OT

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES															
				(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if codes not entered in D(1))					
1	K 1 0 2	440,000	T	D	8	0	S	0	1	S	0	2							
2				T	0	1	T	0	4										
3	K 1 0 3	440,000	T	D	8	0	S	0	1	S	0	2							
4				T	0	1	T	0	4										
5	K 1 0 6	440,000	T	D	8	0	S	0	1	S	0	2							
6				T	0	1	T	0	4										
7	K 0 0 9	440,000	T	D	8	0	S	0	1	S	0	2							
8				T	0	1	T	0	4										
9	K 0 1 0	440,000	T	D	8	0	S	0	1	S	0	2							
10				T	0	1	T	0	4										
11	K 0 1 1	440,000	T	D	8	0	S	0	1	S	0	2							
12				T	0	1	T	0	4										
13	K 0 1 3	440,000	T	D	8	0	S	0	1	S	0	2							
14				T	0	1	T	0	4										
15	K 0 1 9	440,000	T	D	8	0	S	0	1	S	0	2							
16				T	0	1	T	0	4										
17	X 0 2 0	440,000	T	D	8	0	S	0	1	S	0	2							
18				T	0	1	T	0	4										
19	K 0 2 8	440,000	T	D	8	0	S	0	1	S	0	2							
20				T	0	1	T	0	4										
21	K 0 2 9	440,000	T	D	8	0	S	0	1	S	0	2							
22				T	0	1	T	0	4										
23	K 0 3 0	440,000	T	D	8	0	S	0	1	S	0	2							
24				T	0	1	T	0	4										
25	K 0 4 0	440,000	T	D	8	0	S	0	1	S	0	2							
26				T	0	1	T	0	4										
27	K 1 1 7	440,000	T	D	8	0	S	0	1	S	0	2							
28				T	0	1	T	0	4										
29																			
30																			
31																			
32																			
33																			

[illegible]

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Form Approved OMB No. 2050-0034 Expires 12-31-97  
GSA No. 0740-02A-01

EPA ID Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C A D 0 0 0 6 3 3 1 6 4																			
Inventory of Hazardous Wastes (continued)										Part D: PROCESSES									
Line Number	EPA Hazardous Waste No. (enter code)				Estimated Annual Quantity of Waste	Unit of Measure (enter code)	Process Codes (enter)										Process Description (enter code for injured party)		
	K	0	9	8			D	8	0	S	0	1	S	0	2				
	K	0	9	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	0	9	9	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	0	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	0	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	0	9	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	K	1	1	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							



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Form Approved, OMB No. 2050-0034 Expires 12-31-97  
GSA No. 0245-EPA-GT

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												
XIV. Description of Hazardous Wastes (continued)																							
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES								(2) PROCESS DESCRIPTION (If a code is not entered, enter "N")											
				(1) PROCESS CODES (enter)																			
	P 0 2 1	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 2	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 3	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 4	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 6	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 7	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 8	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 2 9	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 3 0	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 3 3	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 3 4	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 3 6	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 3 7	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														
	P 0 4 0	440,000	T	D	8	0	S	0	1	S	0	2											
				T	0	1	T	0	4														





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Form Approved GSA FPMR (41 CFR) 101-11.6 Expires 12-31-01  
GSA No. 07-01-FPA-01

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												
XIV-Description of Hazardous Wastes (continued)																							
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE				C. UNIT OF MEASURE (enter code)				D. PROCESSES										
													(1) PROCESS CODES (enter)										
												(2) PROCESS DESCRIPTION (if a code is not entered in D(1))											
	P	0	6	7	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	6	8	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	6	9	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	0	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	1	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	2	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	4	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	5	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	6	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	7	7	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	8	4	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	8	5	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	8	7	440,000				T				D	8	0	S	0	1	S	0	2		
													T	0	1	T	0	4					
	P	0	8	8	440,000				T				D	8	0	S							

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EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
IV. Description of Hazardous Wastes (continued)																			
Line Number		A: EPA HAZARDOUS WASTE NO. (enter code)	B: ESTIMATED ANNUAL QUANTITY OF WASTE	C: UNIT OF MEASURE (enter code)	D: PROCESSES														
					(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if a code is not entered, enter it)				
		P 0 9 2	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 0 9 3	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 0 9 7	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 0 9 9	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 1	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 2	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 3	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 4	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 5	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 6	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 7	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 8	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 0 9	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 1 1 0	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 0 5 7	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									
		P 0 5 9	440,000	T	D	8	0	S	0	1	S	0	2						
					T	0	1	T	0	4									

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Form Approved, GMB No. 2050-0034 Expires 12-31-97  
GSA No. 0246-EPA-OT

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												

## XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																			
				(1) PROCESS CODES (enter)																			
				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))																			
1	P 1 1 2	440,000	T	D	8	0	S	0	1	S	0	2											
2				T	0	1	T	0	4														
3	P 1 1 3	440,000	T	D	8	0	S	0	1	S	0	2											
4				T	0	1	T	0	4														
5	P 1 1 4	440,000	T	D	8	0	S	0	1	S	0	2											
6				T	0	1	T	0	4														
7	P 1 1 5	440,000	T	D	8	0	S	0	1	S	0	2											
8				T	0	1	T	0	4														
9	P 1 1 6	440,000	T	D	8	0	S	0	1	S	0	2											
10				T	0	1	T	0	4														
11	P 1 1 8	440,000	T	D	8	0	S	0	1	S	0	2											
12				T	0	1	T	0	4														
13	P 1 1 9	440,000	T	D	8	0	S	0	1	S	0	2											
14				T	0	1	T	0	4														
15	P 1 2 0	440,000	T	D	8	0	S	0	1	S	0	2											
16				T	0	1	T	0	4														
17	P 1 2 1	440,000	T	D	8	0	S	0	1	S	0	2											
18				T	0	1	T	0	4														
19	P 1 2 3	440,000	T	D	8	0	S	0	1	S	0	2											
20				T	0	1	T	0	4														
21																							
22																							
23																							
24																							
25																							
26																							
27																							
28																							
29																							
30																							
31																							
32																							
33																							

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Form Approved OMB No. 2050-0034 Expires 12-31-01  
GSA No. 0246-EPA-07

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES												
							(1) PROCESS CODES (enter)								(2) PROCESS DESCRIPTION (if code is not entered in (1))				
	U	0	0	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	0	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	0	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	0	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	0	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	0	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	0	1	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							

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Form Approved, GSA No. 2050-0024 EDW 12-21-91  
GSA No. 0740-EPA-01

EPA I.D. Number (enter from page 1)													Secondary ID Number (enter from page 1)												
C	A	D	0	0	0	6	3	3	1	6	4														
XIV. Description of Hazardous Wastes (continued)																									
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																		
							(1) PROCESS CODES (enter)																		
(2) PROCESS DESCRIPTION (if code is not entered in (1))																									
	U	0	1	9	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	0	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	2	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	3	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	4	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	5	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	6	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	7	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	2	8	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	3	0	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	3	1	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	3	2	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	3	3	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													
	U	0	3	4	440,000	T	D	8	0	S	0	1	S	0	2										
							T	0	1	T	0	4													

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EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)															
C A D 0 0 0 6 3 3 1 6 4																											
IV. Description of Hazardous Wastes (continued)																											
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																				
	(1) PROCESS CODES (enter)												(2) PROCESS DESCRIPTION (If a code is not entered in B(1))														
	U	0	3	5	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	3	6	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	3	7	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	3	8	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	3	9	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	1	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	2	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	4	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	6	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	7	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	8	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	4	9	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	5	0	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															
	U	0	5	1	440,000	T	D	8	0	S	0	1	S	0	2												
							T	0	1	T	0	4															

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)												
C	A	D	0	0	0	6	3	3	1	6	4													
XIV. Description of Hazardous Wastes (continued)																								
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)					B. ESTIMATED ANNUAL QUANTITY OF WASTE (enter code)	C. UNIT OF MEASURE (enter code)	D. PROCESSES																
								(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (If a code is not entered in D(1))						
	U	0	5	2		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	3		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	5		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	6		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	7		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	8		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	5	9		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	0		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	2		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	3		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	4		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	7		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	8		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											
	U	0	6	9		440,000	T	D	8	0	S	0	1	S	0	2								
								T	0	1	T	0	4											





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Form Approved GAO No. 2050-0034 Expires 12-31-91  
GSA No. 0348-EPA-07

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV: Description of Hazardous Wastes (continued)																			
A. EPA HAZARDOUS WASTE NO. (enter code)										B. ESTIMATED ANNUAL QUANTITY OF WASTE									
C. UNIT OF MEASURE (enter code)										D. PROCESSES									
										(1) PROCESS CODES (enter)									
										(2) PROCESS DESCRIPTION (if code is not entered, 000000)									
U	0	8	5							440,000									
U	0	8	6							440,000									
U	0	8	7							440,000									
U	0	8	8							440,000									
U	0	8	9							440,000									
U	0	9	0							440,000									
U	0	9	1							440,000									
U	0	9	2							440,000									
U	0	9	3							440,000									
U	0	9	4							440,000									
U	0	9	5							440,000									
U	0	9	6							440,000									
U	0	9	7							440,000									
U	0	9	8							440,000									



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FORM NO. 07-67A-CY

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												
XIV. Description of Hazardous Wastes (continued)																							
Line Number	A. EPA HAZARDOUS WASTE CODE (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																
							(1) PROCESS CODES (enter)												(2) PROCESS DESCRIPTION (if code is not entered in (1))				
	U	1	1	5	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	1	6	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	1	7	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	1	8	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	1	9	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	0	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	1	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	2	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	3	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	5	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	6	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	7	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	8	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											
	U	1	2	9	440,000	T	D	8	0	S	0	1	S	0	2								
							T	0	1	T	0	4											



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Form Approved, OMB No. 2050-0034 Expires 12-31-91  
CSA No. 0248-EPA-07

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV. Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES												
							(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if a code is not entered in D(1))		
	U	1	4	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	4	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	4	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	4	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	4	9	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	5	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							

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Form Approved GSA GEN. REG. NO. 2700-0074 EXPIRES 12-31-01  
GSA NO. 0740-EPA-07

EPA ID Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV. Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES															
				(1) PROCESS CODES (enter)															
	U 1 5 9	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 1	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 2	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 3	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 4	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 5	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 6	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 6 9	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 0	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 1	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 2	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 3	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 4	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															
	U 1 7 6	440,000	T	D 8 0 S 0 1 S 0 2															
				T 0 1 T 0 4															

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FORM APPROVAL, CMB NO. 20204448, EMBR 12-31-91  
CSA No. 0346-EPA-OT

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV. Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES												
							(1) PROCESS CODES (enter)												
																	(2) PROCESS DESCRIPTION (if a code is not entered in (1))		
	U	1	7	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	7	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	7	9	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	8	9	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							



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Form Approved GMB No. 2050-0074 Expires 12-31-81  
GSA No. 0740-EPA-07

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C	A	D	0	0	0	6	3	3	1	6	4								
XIV. Description of Hazardous Wastes (continued)																			
Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES												
							(1) PROCESS CODES (enter)								(2) PROCESS DESCRIPTION (if a code is not entered, enter 1)				
	U	1	9	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	1	9	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	0	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	7	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	U	2	0	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							

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Form Approved. GMB No. 2050-0034 Expires 12-31-91  
GSA No. 0246-EPH-01

EPA I.D. Number (enter from page 1)												Secondary ID Number (enter from page 1)											
C	A	D	0	0	0	6	3	3	1	6	4												

## XIV. Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																			
				(1) PROCESS CODES (enter)																			
				(2) PROCESS DESCRIPTION (if a code is not entered in D(1))																			
1	U 2 4 0	440,000	T	D	8	0	S	0	1	S	0	2											
2				T	0	1	T	0	4														
3	U 2 4 2	440,000	T	D	8	0	S	0	1	S	0	2											
4				T	0	1	T	0	4														
5	U 2 4 3	440,000	T	D	8	0	S	0	1	S	0	2											
6				T	0	1	T	0	4														
7	U 2 4 4	440,000	T	D	8	0	S	0	1	S	0	2											
8				T	0	1	T	0	4														
9	U 2 4 6	440,000	T	D	8	0	S	0	1	S	0	2											
10				T	0	1	T	0	4														
11	U 2 4 7	440,000	T	D	8	0	S	0	1	S	0	2											
12				T	0	1	T	0	4														
13	U 2 4 8	440,000	T	D	8	0	S	0	1	S	0	2											
14				T	0	1	T	0	4														
15	U 3 2 8	440,000	T	D	8	0	S	0	1	S	0	2											
16				T	0	1	T	0	4														
17	U 3 5 3	440,000	T	D	8	0	S	0	1	S	0	2											
18				T	0	1	T	0	4														
19	U 3 5 9	440,000	T	D	8	0	S	0	1	S	0	2											
20				T	0	1	T	0	4														
21																							
22																							
23																							
24																							
25																							
26																							
27																							
28																							
29																							
30																							
31																							
32																							
33																							

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Form 3700-23 (01-70)  
EPA No. 3700-23

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)									
C A D 0 0 0 6 3 3 1 6 4																			
Description of Hazardous Wastes (continued)																			
Waste Number	A: EPA HAZARDOUS WASTE NO. (enter 3 digit)			B: ESTIMATED ANNUAL QUANTITY OF WASTE	C: UNIT OF MEASURE (enter code)	D: PROCESSES													
	(1) PROCESS CODES (enter)								(2) PROCESS DESCRIPTION (if a code is not entered, enter "1")										
	P	0	6	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	6	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	7	3	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	7	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	8	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	8	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	9	4	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	9	5	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	9	6	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	0	9	8	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	1	1	1	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
	P	1	1	2	440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
					440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							
					440,000	T	D	8	0	S	0	1	S	0	2				
							T	0	1	T	0	4							

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Form Approved OMB No. 2050-0034 Edition 12  
GSA No. 24-00000

EPA ID Number (enter from page 1)										Secondary ID Number (enter from page 1)										
C A D 0 0 0 6 3 3 1 6 4																				
Description of Hazardous Wastes (continued)																				
Line Number	EPA Hazardous Waste No. (enter 4 digits)	Estimated Annual Quantity of Waste	Unit of Measure (enter code)	(1) PROCESS CODES (enter)								(2) PROCESS DESCRIPTION (U.S. Code 106(a)(2)(B))								
	P 0 0 6	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 0 9	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 1 1	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 1 2	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 1 5	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 1 9	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 2 5	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 3 1	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 3 8	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 3 9	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 5 1	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 5 4	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 5 8	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											
	P 0 6 2	440,000	T	D	8	0	S	0	1	S	0	2								
				T	0	1	T	0	4											









March 18, 1999

Glenn Androsko  
TRC Environmental Solutions  
21 Technology Drive  
Irvine, CA 92618

Dear Mr. Androsko:

Pursuant to a request from your Regional Sales Manager, Ms. Pam Lynd, I am providing you with information regarding regulations under the Toxic Substances Control Act (TSCA) that govern the disposal of PCBs and PCB Items. Currently, Salesco holds an Alternate Destruction and Commercial Storage permit with the EPA for PCBs.

Although Salesco has held this permit since 1994, the final TSCA disposal rule (June 29, 1998) requires only a commercial storage permit for those facilities decontaminating PCB Items. PCB Items must be disposed of in accordance with disposal options under 40 CFR Part 761.60(b) or in accordance with decontamination provisions under 40 CFR Part 761.79. As previously stated, no disposal approvals are required under the decontamination provisions and no maximum allowable PCB concentrations are specified. In fact, specific procedures are provided for PCB concentrations at less than or equal to 10,000 ppm and procedures are provided for PCB concentrations greater than 10,000 ppm, with no maximum concentration specified.

I hope this response satisfies your questions regarding disposal of PCB Items under TSCA regulations. Should you require additional information, you may contact me at 800-368-9095. Thank you.

Sincerely,  
SALESCO SYSTEMS USA, INC

A handwritten signature in cursive script that reads 'Karyn J. Fought'.

Karyn J. Fought, Ph.D.  
Environmental Affairs Specialist



**NATIONAL SALES & MATERIAL CONTROL OFFICE**  
5736 WEST JEFFERSON STREET • PHOENIX, ARIZONA 85043  
(800) 368-9095 • (602) 233-2955 • FAX (602) 415-3030 • [www.ssusa.com](http://www.ssusa.com)

***Salesco Systems, USA***  
***FAX TRANSMISSION COVERSHEET***

**FROM:** Pamela J. Lynd Phone: (619) 222-5808  
Salesco System USA, Inc. Fax: (619) 222-3722  
2925 Emerson Street, Suite 312  
San Diego, CA 92106

**TO:** Marco Phone: (800)788-2167  
Consolidated Waste Fax: **1-909-482-2272**

**DATE:** Wednesday, March 17, 1999

**PAGES:** 20

**SUBJECT:** Storage permits

In our PCB audit book, blue cover, is a copy of our PCB permits, insurance, etc. I am faxing copies as well.

The generator has 1 year from the date items are taken out of service to have it disposed of. If we receive material close to that one year time period we "red tag" (special handling) and expedite the processing of the material.

Please call me at 619-222-5808 or Karen Fought, our regulatory compliance manager, 1 800-368-9095, if you need further information.

# FACT SHEET

PCB WASTE STORAGE  
AND RECYCLING FACILITY

The Salesco Phoenix complex (Buildings 1, 2 and 3) is located 6.5 miles west of the central Phoenix business district.

## SITE LOCATION

5736 West Jefferson Street  
Phoenix, Arizona 85043  
Telephone: 602-233-2955

Fax: 602-415-3030

## APPLICABLE PERMITS

- Federal EPA Generator ID #AZD 983 473 539  
Commercial Storage of PCB Waste  
Issued by EPA Region IX, 12/15/1994  
[40 CFR 761.65]
- NPDES Stormwater General Permit, Phoenix Complex  
Issued by the EPA, 12/31/1992
- Laboratory Licensure for PCB Analysis  
Issued by the State of Arizona, 8/3/1995
- Alternate Disposal Technology  
Issued by EPA Region IX, 12/15/1994  
[40 CFR 761.60(e)]
- Air Quality Operating Permit #95-0050  
Issued by Maricopa County, AZ, 8/7/1995

## FACILITY DESIGN INFORMATION

Located on approximately 80,000 sf. parcel which is zoned A-1 Light Industrial. The complex consists of 3 contiguous one-story buildings each with roughly 8,000 sf. plant area and 1,000 sf. office area. Facility is sited and developed in accordance with selected criteria governing the siting and permitting of TSCA Commercial Storage and Disposal Facilities outlined within 40 CFR 761.65. These criteria include containment, location standards and facility design.

NOT located in a 100-year flood plain or within the boundaries of an NPL superfund site.

## PERMITTED WASTE STORAGE WASTE RECYCLING

Permitted to receive TSCA-regulated PCB waste up to a maximum storage capacity of 40,500 gallons of PCB waste and 7,700 gallons of non-PCB waste under the terms of the Commercial Storage approval. The Alternative Disposal Technology approval allows for on-site recycling of PCB-contaminated (50 - 499 ppm PCB) articles and PCB-containing ballasts (50 ppm and greater PCB). Wastes accepted are:

- PCB and non-PCB fluorescent lamp ballasts
- PCB Articles (capacitors, transformers, oil-filled bushings, etc.)
- PCB debris (dirt, water, PPE, etc.)
- Non-PCB (<50 ppm PCB) articles, containers, debris

## CLOSURE PLAN/ CLOSURE FUNDING

In accordance with the facility's storage and processing agreements and the requirements set forth in 40 CFR 761.65 (e)(f) and (g), a Closure Plan, Closure Cost Estimate and Financial Assurance have been prepared and approved for the facility.

The facility is scheduled to close December 31, 2004. The financial assurance mechanism established is a Trust Agreement through Security Investment Management and Trust Company in Phoenix, naming the USEPA, Region IX, as beneficiary.

## FACILITY OPERATING PLANS/ CONTINGENCY PLAN

The following plans have been developed specifically for Salesco and are available for inspection at the facility.

- Waste and Material Analysis Plan
- SPCC Plan
- Health & Safety Plan
- Contingency Plan
- Laboratory QA/QC Program
- Closure Plan

## INSURANCE

Salesco maintains the following insurance coverages in the amounts indicated:

Environmental Pollution Liability	\$5,000,000 per claim, \$10,000,000 aggregate
Comprehensive General Liability	\$10,000,000 combined single limit per occurrence
Comprehensive Automobile	\$10,000,000 combined single limit per occurrence
Workmens' Compensation	Statutory Limits
Employer's Liability	\$1,000,000 combined single limit per occurrence

Certificates of Insurance furnished to confirmed customers upon request.

## WASTE STREAM APPROVAL PROCEDURES

PCB and non-PCB waste acceptance procedure involves the following:

- Completion of a Salesco generator's Material Profile sheet
- Establishment of a credit account or alternate payment method
- Execution of a mutually acceptable contract/purchase order

## SERVICES/ CUSTOMER ASSISTANCE

Salesco provides the following services to PCB and non-PCB waste customers throughout the United States:

- Technical/Regulatory Assistance
- Container Delivery
- Labeling, Loading and Transportation
- Recycling and Disposal
- Laboratory Analysis

### National Customer Service Office

5736 West Jefferson Street

Phoenix, Arizona 85043

Telephone: 800-368-9095

Fax: 602-415-3030



5736 West Jefferson Street • Phoenix, Arizona 85043



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

DEC 20 1994

DEC 15 1994

Mr. Frank D. Sales, Jr.  
President  
Salesco Systems USA, Inc.-AZ  
5736 West Jefferson  
Phoenix, AZ 85043

Re: Commercial PCB Storage and Lighting Ballast Recycling Approval  
EPA ID AZD 983473539

Dear Mr. Sales:

This letter, with enclosed conditions, serves as written approval pursuant to 40 CFR Parts 761.65 (d)(1) and 761.60 (e) for Salesco Systems USA, Inc.-AZ to commercially store PCBs and PCB articles and to recycle and dispose of PCB-contaminated lighting ballasts at 5736 West Jefferson, Phoenix, Arizona.

The Environmental Protection Agency (EPA) Region IX has reviewed your August 17, 1994 application to commercially store PCBs and to recycle and dispose of PCB-contaminated lighting ballasts and has determined that the Salesco Systems USA, Inc.-AZ operation at 5736 West Jefferson, Phoenix, Arizona will not pose an unreasonable risk of injury to health or the environment. This approval incorporates the closure plan submitted in the application and amendments offered in response to EPA's notice of deficiencies.

This approval shall expire on December 31, 1999 unless the applicant makes a written request for renewal of this approval at least 180 days prior to the expiration date.

The total amount of PCB materials and PCB Items may not exceed 40,500 gallons of PCB waste and 7,700 gallons of non-PCB waste nor the quantity whose disposal cost would be more than Salesco's closure cost estimate for the maximum PCB inventory.

For PCB analyses, EPA approves the use of Salesco-AZ's on-site laboratory so long as the certification by the Arizona Department of Health Services remains in effect. Salesco-AZ may use any other laboratory certified for PCB analysis.

Salesco-AZ has chosen the trust fund as their financial assurance mechanism for closure. Acceptable documentation must be provided to EPA within 30 days from the date of this approval that the first payment into the trust has been received by the trustee. This first

payment must be sufficient to meet the requirements of 40 CFR 761.65 (g)(1). Failure to meet this requirement shall be grounds for termination of this approval and Salesco-AZ will be required to initiate closure of the facility.

In addition to Region IX, a copy of the Annual Report should also be sent to:

Mr. Thomas G. Simons  
Office of Pollution Prevention and Toxics  
US EPA Headquarters 7404  
401 M Street  
Washington DC, 20460

If you have any questions regarding this approval, please contact Yosh Tokiwa of my staff at (415) 744-1109.

Sincerely,



David P. Howekamp  
Director  
Air and Toxics Division

Enclosure:

cc: David K. Hanneman, OPPT



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

In the Matter of Salesco Systems  
USA Inc.-AZ  
Phoenix, AZ 85043  
EPA ID AZD983473539

) Approval for Commercial Storage of  
) Polychlorinated Biphenyls (PCBs) and  
) Alternate Disposal of Lighting Ballasts  
)

AUTHORITY

This Approval to commercially store and process regulated Polychlorinated Biphenyl (PCB) contaminated materials and to separate and recycle Lighting Ballasts is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA) of 1976 (Public Law No. 94-469) and the Federal PCB Regulations, 40 CFR 761.60 (e) and 761.70 (a) and (b) (48 CFR 13185, March 30, 1983).

EFFECTIVE DATE

This approval shall be effective upon signature of the Director of Air and Toxics Division, EPA Region IX.

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## DEFINITIONS

All the terms and abbreviations used in this Approval shall have the meanings as defined in 40 CFR Section 761.3, EPA's "Guidelines for PCB Destruction Permit Applications and Demonstration Test Plans" (April 16, 1985) and "TSCA Guidance Manual for Commercial PCB Storage Facility Applications (October 18, 1989), unless the context clearly indicates otherwise or unless defined below for the purposes of this Approval.

"Application" and "Salesco Systems USA-AZ Application" mean the August 17, 1994 Application, and subsequent modifications, which were submitted to EPA for PCB storage non-thermal alternate disposal process of PCBs.

"Alternate Disposal Technology" means the process of separating PCB-contaminated potting material and capacitors from recyclable metal components of lighting ballasts.

"ATD" means the Director, Air and Toxics Division, EPA Region IX.

"EPA" means the United States Environmental Protection Agency, Region IX Office.

"Destroy by Recycling" means destroying the original identity of the article by melting, grinding, etc., and reusing the material.

"Lighting Ballast" means a device that controls the flow of electric current to fluorescent and high-intensity discharge (HID) lamps.

"Parts per Million" (ppm) means mg per kilogram (mg/kg).

"PCB-Containing Lighting Ballast" means any lighting ballast with potting compound containing, or presumed to contain, PCBs at or exceeding 50 ppm PCBs.

"Potting Compound" means the tar-like substance used as an insulator in lighting ballasts. Some potting compounds contain PCBs.

"Regional Administrator" means the Regional Administrator, EPA Region IX.

"Salesco-AZ" means Salesco Systems USA, Inc.-AZ.

"Salesco-AZ" and "Facility" mean the site located at 5736 W. Jefferson, Phoenix, AZ 85043 where the Salesco Systems USA, Inc.-AZ EPA-approved PCB storage and lighting ballast recycling and disposal site is located.



### APPROVAL

Salesco Systems USA, Inc.-AZ has submitted an application to the Regional Administrator for commercial storage and alternate disposal of PCBs and PCB Items. Under 40 CFR 760.65 (i), the Regional Administrator is authorized to issue permits for activities involving PCBs and PCB wastes. This authority has been redelegated to the Director, Air and Toxics Division by Regional Order R9 1260.31.

1. Approval is granted to Salesco-AZ to commercially store and process regulated Polychlorinated Biphenyl (PCB)-contaminated articles and items and to separate PCB-containing potting material and capacitors from recyclable metal components of lighting ballasts as described in the Salesco-AZ Application and in accordance with this Approval and the Conditions of Approval as stated herein.

2. This Approval shall become effective upon signature of the Director of Air and Toxics Division, EPA Region IX and shall expire on December 31, 1999, unless revoked, suspended, or terminated in accordance with the Conditions of Approval stated herein.

3. Salesco-AZ has chosen the trust fund as their financial assurance mechanism for closure. Acceptable documentation must be provided to the EPA within 30 days from the date of this Approval that the first payment into the trust has been received by the trustee. This first payment must be sufficient to meet the requirements of 40 CFR 761.65(g)(1). Failure to meet this requirement shall be grounds for termination of this Approval and Salesco will be required to initiate closure of the facility.

4. To renew this Approval for commercial PCB storage and recycling lighting ballasts, Salesco-AZ must apply to the EPA in writing at least 180 days but not more than 270 days prior to the expiration date of this Approval. EPA may require Salesco-AZ to submit additional information in connection with its application for renewal. The above-mentioned information will be reviewed by EPA to determine if this Approval is to be renewed.

### CONDITIONS OF APPROVAL

#### A. GENERAL CONDITIONS

1. Salesco-AZ must comply with and operate in accordance with provisions of the PCB regulation 40 CFR 761, with the Conditions of Approval stated herein, and with the Salesco-AZ application and amendments which were submitted to and approved by the EPA.

2. Any departure from the Conditions of Approval, modifications of this Approval, or the Salesco-AZ application approved by the EPA, must receive prior written authorization from the ATD. Departure from the Conditions of Approval, from any modifications of this Approval, or from the Salesco-AZ Application approved by the EPA, without prior written approval by the ATD, will subject this Approval to revocation, suspension, or termination,

and will subject Salesco-AZ to enforcement action under TSCA. If at any time Salesco-AZ becomes aware of any departure from the PCB regulation, Conditions of Approval, modifications of this Approval, or the Salesco-AZ application, Salesco-AZ shall notify the ATD by telephone within 24 hours and shall submit a written report to the ATD describing the departure within five (5) working days.

2. EPA reserves the right to impose additional conditions to the Approval and to modify any condition. EPA may withdraw or modify this Approval if it has reason to believe that the continued operation of the storage and disposal activity or facility presents an unreasonable risk to public health or the environment, if the EPA issues new regulations or standards for issuing PCB approvals, or for noncompliance with the Conditions of Approval or the PCB regulation (40 CFR 761).

3. Salesco-AZ shall provide upon request any information which the EPA deems necessary to determine whether cause exists for modification, revocation, suspension, or termination of this Approval. Failure to provide the above-mentioned information within five (5) working days of its request shall be deemed a violation of the Conditions of Approval.

4. Salesco-AZ is responsible for the actions of all Salesco-AZ employees, agents, and contractors who are involved in the operation of the storage and disposal facility. Compliance with the PCB regulation, the Conditions of Approval, modifications of this Approval, written notifications, and the Salesco-AZ application approved by the EPA, does not relieve Salesco-AZ of the responsibility to comply with all other applicable federal, state, and local laws and regulations.

5. Salesco-AZ shall allow inspection of the site, storage facility, recycling facility, and records relating to the facility and operations by the EPA authorized employees, agents, or contractors at any time to determine compliance with applicable statutes, regulations, Approval, and Conditions of Approval issued pursuant thereto. Any refusal by Salesco-AZ to allow access to the site and process, or refusal to provide copies of records shall be deemed a violation of the Conditions of Approval.

6. Salesco-AZ shall submit a written request to the ATD for a modification of this Approval to store PCBs and recycle PCB ballasts and its closure plan whenever:

- a. there is to be a change in ownership, operating plans, or facility PCB storage area specifications,
- b. there is a change in the expected date of closure (December 31, 2004),
- c. unexpected events require modification of the approved closure plan,
- d. changes in regulation require a more costly disposal method than that specified in the approved closure plan.

7. At least thirty (30) days before transferring ownership of the facility, a notarized

shall be presumed to contain 50 ppm or greater PCB unless the material is demonstrated to contain less than 50 ppm. Such material may be demonstrated to contain less than 50 ppm PCBs by a composite sample of each batch unless 1) potting material known to contain PCBs at 50 ppm or greater was added to the batch or 2) material from a leaking PCB ballast was added to the batch.

6. Each batch of separated metal and nonmetal materials for PCB analysis shall be thoroughly mixed before sampling by one of the following sample collection procedures:

A sample may be taken of the material in each shipping container if the container contains one cubic yard of material or less.

A sample may be composited from subsamples taken from more than one shipping container, provided the composite is taken from no more material than is included in one shipment.

A sample may be composited from subsamples collected from material separated each day, provided the composite is taken from no more material than is included in one shipment. At least one subsample shall be taken of the separated material generated in a normal production day.

7. Potting material and separated non-metallic material at or 50 ppm or greater but less than 500 ppm shall be disposed of in a chemical waste land fill approved pursuant to 40 CFR 761.75 or an incinerator approved pursuant to 40 CFR 761.70.

8. Potting material and separated non-metallic material at or 500 ppm or greater shall be disposed of in an incinerator approved pursuant to 40 CFR 761.70.

9. PCB waste, as defined in 40 CFR 761.3, shall be stored and transported in appropriate packaging as specified by the United States Department of Transportation.

10. In the event further decontamination of the metal is required, Salesco-AZ must apply for a permit amendment for such change.

#### C. STORAGE OF PCBs

1. Storage is limited to oil-filled electrical equipment, recovered dielectric fluids, drummed PCB solids and liquids, lighting ballasts, separated metal components, potting materials, separated non-metallic materials and capacitors removed from PCB ballasts, ballast processing and clean-up consumables listed in Salesco-AZ's application.

2. Storage of PCB and PCB Items are limited to the PCB storage area specified in the Salesco Application except PCB materials and PCB Items in transit to or from the Facility may remain outside the designated PCB storage area for a time not to exceed six (6) days.

3. Non-leaking PCB lighting ballasts and PCB articles may be stored temporarily outside the designated storage area for up to 30 days from the date of removal from service

affidavit signed by the transferee which states that the transferee will abide by all provisions of this Approval shall be submitted to the ATD. After receiving such notification and affidavit, and other such documents as EPA may require, EPA may issue an amended Approval substituting the transferee's name for the Salesco-AZ name, or EPA may require the transferee to apply for a new PCB storage and recycling Approval. The transferee shall not operate under the Approval until the ATD issues an Approval in the transferee's name.

8. This Approval is binding upon Salesco-AZ. Salesco-AZ shall be responsible hereunder for any violations by officers or employees of any company having a financial interest in Salesco-AZ.

9. For PCB analysis, EPA approves the use of Salesco-AZ's own on-site laboratory so long as the certification (Arizona Environmental License Number AZ0475) by the Arizona Department of Health Services remains in effect. Salesco-AZ may use any other laboratory certified for PCB analysis which is certified for PCB analysis.

#### B. PROCESSING OF BALLASTS

The Salesco-AZ's PCB lighting ballast recycling and disposal process involves screening the ballasts, physically separating the metal components from associated PCB-contaminated potting compound and recycling the metals. Salesco-AZ shall meet the following work practice, operation, and other standards at all times during the operation of its facility:

1. Externally leaking ballasts and ballasts showing visual signs of leakage shall be excluded from recycling and disposed of as TSCA waste. Separation of leaking ballast components is not permitted.

2. All PCB-contaminated wastes in the form of non-leaking capacitors, potting compound, and associated debris and solid consumables such as personal protective equipment, disposable sampling templates, sorbents, wipes, solvents and/or solvent still bottoms, etc., shall be disposed of as TSCA waste in a chemical waste land fill approved pursuant to 40 CFR 761.75 or an incinerator approved pursuant to 40 CFR 761.70.

3. Leaking PCB capacitors from PCB ballasts shall be disposed of in an incinerator approved pursuant to 40 CFR 761.70.

4. Separated metal components shall be classified according to the amount of PCBs on the surface of the metal. Separated metal components with PCB levels at one hundred micrograms per one hundred square centimeters (100 ug/100 cm<sup>2</sup>) or 50 ppm or less following processing may be recycled or disposed of as solid waste. Metals above 100 ug/100 cm<sup>2</sup> may be reprocessed or shall be disposed of as solid waste. For recycling, the original identity of the article shall be destroyed by melting, grinding, etc. Metal components with PCB levels at or below 10 ug/100 cm<sup>2</sup> or below 2 mg/kg following processing may be reused.

5. Potting material and separated non-metallic material removed from PCB ballasts

provided the ballasts are placed in a covered, marked, non-leaking container and a note is attached to the container indicating the date of the item(s) removal from service.

4. Leaking PCB lighting ballasts may be temporarily stored outside the designated storage area for up to 30 days from the date of removal from service provided the ballasts are placed in a covered, non-leaking container that contains sufficient sorbent material to absorb any liquid PCBs remaining in the PCB ballasts and a note is attached to the container indicating the date the item(s) were removed from service.

5. The total amount of PCB materials and PCB Items at the Facility whether in or outside the designated PCB storage area may not exceed 40,500 gallons of PCB waste and 7,700 gallons of non-PCB waste nor the quantity whose disposal cost would equal the estimated cost of disposal of the maximum PCB inventory set forth in Salesco's closure cost estimate.

6. All equipment used for handling PCBs and PCB Items that come in direct contact with PCBs should be marked with the PCB  $M_L$  label (40 CFR 761.45 (a)). The PCB  $M_S$  label may be substituted if the equipment cannot accommodate the  $M_L$  label.

7. Per 40 CFR 761.65 (c)(4), no item of movable equipment that is used for handling PCBs and PCB Items in the storage and recycling facilities and that comes in direct contact with PCBs shall be removed from the storage and recycle facility area unless it has been decontaminated as specified in § 761.79.

8. Any spill onto absorbent material contained within a containment pan shall be cleaned by removal of the absorbent material within 48 hours of the spill. The absorbent material must be treated as PBC regulated waste. All other spill inside or outside of the PBC Storage area shall be remediated as a specified in D4 of this approval.

9. Access to the PCB storage and waste handling activities shall be restricted to those Salesco employees on the signature sheet specified in D2, federal, state and local inspectors, and emergency response personnel.

#### D. WORKER PROTECTION

1. Salesco-AZ shall comply with the Safety and Hygiene program of the approved application.

2. Salesco-AZ's application includes a training plan in the form of a training manual for training workers. Within thirty (30) days of EPA permit approval, Salesco-AZ must train its employees as specified in the manual. New employees must be trained as specified in the manual prior to entering the PCB storage and ballast recycling areas. In addition to addressing the regulatory requirements of 40 CFR 761, the training must also include the Prevention Control and Countermeasure (SPCC) Plan. A signature sheet must be used to verify personnel participation.

3. All plant operations personnel must enter and leave the PCB processing facility through a clean-in/clean-out facility.

4. Surfaces of the non-processing and clean-in/clean-out areas shall not exceed 10 ug/100 cm<sup>2</sup> PCBs.

5. In the event levels of contamination in excess of those referenced in Paragraph D4, Salesco-AZ shall immediately begin decontamination of the affected area(s). Cleanup to below the referenced levels shall be completed within 48 hours of the initial discovery of the contamination.

#### E. CONTINGENCY PLANS and EMERGENCY PROCEDURES

1. Salesco-AZ shall follow the Spill Prevention Control and Countermeasures Plan (SPCC Plan) in the approved application whenever there is a fire, explosion, or release of PCBs or hazardous constituents.

2. A copy of the Contingency Plan and all revisions to the Plan are to be maintained at the Salesco-AZ site. A copy of the Training Manual and this Approval shall also be maintained on-site. Also lists of emergency contacts, telephone numbers, and emergency exit routes shall be posted in prominent locations throughout the facility.

3. The facility shall at a minimum be equipped with the following:

- (a) an internal communications or alarms system capable of providing immediate emergency instruction (voice or signal) to facility personnel,
- (b) devices, such as a telephone which is immediately available at the scene of operations or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams,
- (c) portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment,
- (d) water at adequate volume and pressure to supply fire hose streams or foam equipment.

4. Salesco-AZ shall at a minimum test and maintain the equipment specified above as recommended by the manufacturer to assure its proper operation in time of emergency. In the event any of the equipment specified above was manufactured by Salesco-AZ, Salesco-AZ shall establish and follow a testing and maintenance plan for those manufactured items.

5. Whenever PCBs are being poured, mixed, or otherwise handled, Salesco-AZ shall ensure that all personnel involved in the operation will have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

6. At all times, there shall be at least one (1) employee either at the Salesco-AZ facility or on call who has the responsibility for coordinating all emergency response measures. This employee shall have immediate access to the entire facility and to a device such as a telephone, cellular phone or a hand-held two-way radio immediately available at the scene of operation and capable of summoning external emergency assistance. This employee must have the authority to commit the resources needed to carry out the Contingency Plan.

7. Adequate aisle space shall be maintained to allow for unobstructed access and egress by personnel, fire protection equipment, and decontamination equipment to all PCB items stored on-site.

8. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment shall be inspected at the frequencies referenced in Section XI of the approved application. All such equipment not specifically referenced in Section XI of the approved application must be inspected at least once a month to assure its proper operation. All emergency equipment inspection and maintenance records must be maintained at the Salesco-AZ site and made available to the EPA upon request.

9. Prior to operation, Salesco-AZ shall provide a written description of recycling and storage activities, stored materials, contingency plans, and emergency procedures, as described in the EPA-approved application, to local fire and police departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

10. In the event an authorized facility operator of Salesco-AZ believes, or has reason to believe, that any detectable quantities of PCBs, chlorinated solvents, or reagents have been released to the environment as a result of recycling and/or storage operation, the operation shall be terminated immediately, and the facility operator shall immediately inform the EPA emergency response personnel by telephone at (913) 236-3778. A full investigation into the cause of the incident and a detailed report shall be included in the daily operation records. A copy of this report describing the incident shall be submitted to the ATD by the close of business on the next regular business day following the incident. No additional material may be stored in the facility until the release problem has been corrected to the satisfaction of the EPA, and the ATD has provided written notice of such determination.

11. Salesco-AZ shall immediately report to EPA if unauthorized entry at the facility occurred which caused PCBs to be discharged, the nature of the problem, if any, that resulted from this occurrence, and corrective action taken by the facility to prevent future occurrences. This includes any tampering, destruction, or loss at the facility which caused release of PCBs.

12. Salesco-AZ shall review and immediately amend, if necessary, the SPCC Plan and Contingency Plan whenever:

- (a) the Plan fails in an emergency,
- (b) the facility changes in its design, construction, operation, maintenance, or other circumstances that materially increase the potential for fires,

explosions, or releases of PCBs or hazardous constituents, or from other responses necessary in an emergency,

- (c) the list of emergency coordinators changes,
- (d) the list of emergency equipment changes,
- (e) any major revision is warranted,
- (f) EPA determines that a revision to the Plan is necessary.

#### F. RECORDKEEPING and REPORTING

1. Salesco-AZ shall comply with all recordkeeping requirements outlined in the PCB Regulation, 40 CFR Part 761.

2. All PCB records, documents, and reports shall be maintained at one centralized location at the Salesco-AZ facility, and shall be made available for inspection by authorized EPA representatives. When Salesco-AZ ceases operations, all records, documents, and reports or certified copies thereof, shall be made available to EPA at the Salesco-AZ facility for a period of at least five (5) years following cessation of operations. If Salesco-AZ is unable to comply with this condition because it is no longer in control of the site, it shall comply by making the records, documents, and reports available at the location which is under control of Salesco-AZ nearest the site.

3. All records required by 40 CFR 761.180 and this Approval shall be written in ink or typed. Any modification or correction of the records must be initialed and dated by the supervisor in charge. If the recordkeeping is maintained by computer system, Salesco-AZ shall maintain monthly printouts of records pertaining to the process.

4. All records, documentation, and information relating to sampling, analysis, and quality assurance as required by this Approval shall be retained at the Salesco-AZ facility for a minimum of five (5) years, or longer if requested by the ATD. These records, documentation, and information shall include the following:

- (a) exact date, place, and time of each sample collected,
- (b) volume of each sample collected,
- (c) name of person collecting each sample,
- (d) name of analyst,
- (e) date and time of analysis,
- (f) the analytical techniques or methods used for each sample,



- (g) the analytical results including chromatographs, calculations, and other raw data,
- (h) calibration records and maintenance records of sampling equipment and analytical instrumentation, and
- (i) records of quality assurance activities as described in Section 6 of the approved application.

5. At the completion of a cleanup required by Paragraph E9, Salesco-AZ shall develop and maintain records of the cleanup including at a minimum:

- (a) identification of the source of the contamination
- (b) the date and time contamination was discovered;
- (c) the date and time cleanup was completed;
- (d) a brief description of contaminated area;
- (e) the pre-cleanup and post-cleanup sampling data used to define boundaries of contamination and a brief description of the sampling methodology used to establish contaminated boundaries;
- (f) the amount of waste cleanup material generated and location of its disposal
- (g) a certification statement signed by Salesco-AZ personnel stating that the decontaminated levels referenced in the appropriate Approval condition has been achieved and that the information contained in the record is true to the best of his/her knowledge.

6. Salesco-AZ shall submit to the ATD a summary of all modifications to the process and application document within ten (10) days of the end of each year's operation, or a report that no such modifications were made.

7. Salesco-AZ shall maintain copies of the Certificate of Disposal for all PCBs and PCB items which are stored at the commercial storage facility. Certificates of Disposal shall be provided to the generator within thirty (30) days of receipt by Salesco-AZ of documentation of final disposal of all materials resulting from the recycling of the generator's PCBs and PCB items.

#### G. CLOSURE and FINANCIAL REQUIREMENTS

1. Salesco-AZ shall comply with the current closure plan and closure cost estimate approved by EPA. At no time may the estimated costs associated with performing closure of the Salesco-AZ facility exceed the current closure cost estimate approved by EPA.

2. Salesco-AZ shall notify the ATD at least 90 days prior to the date it expects to begin closure.

3. Upon termination of the operation, Salesco-AZ shall proceed according to the provisions of the Closure Plan submitted to and approved by EPA. As used in this paragraph, "termination of the operation" includes cessation of operations required by expiration, termination, or revocation of this Approval.

4. Financial assurance equivalent to that specified in 40 CFR 761.65(g) shall be maintained to provide for:

- (a) funding of proper closure of the operation. The closure plan shall include the decontamination and/or disposal in an EPA approved PCB disposal facility of PCB-contaminated equipment and materials;
- (b) compensating others for bodily injury and property damage caused by accidents arising from operations of the facility.

5. Any payment required to establish or continue the financial assurance mechanism used to satisfy the financial requirements of this section shall be made, and written verification thereof shall be furnished to the ATD by the Chief Executive Officer of Salesco-AZ prior to operation under this Approval. Salesco-AZ shall submit such documentation as EPA may require to determine that the financial assurance requirements have been met.

6. An executed copy of the trust agreement or other instrument and satisfactory evidence as determined by EPA of adequate liability insurance meeting the requirements of 40 CFR 264 (H) shall be submitted to the ATD prior to operation under this Approval. Salesco-AZ shall submit such documentation as EPA may require to determine that the liability insurance requirement has been met.

7. Salesco-AZ shall amend the Closure Plan whenever changes in operating plans or facility design affect the Closure Plan, including the current closure cost estimate, or whenever there is a change in the expected year of closure. Salesco-AZ must submit to the ATD for approval any modifications to the Closure Plan at least thirty (30) days prior to the modification.

8. Salesco-AZ shall submit documentation of continued financial assurance annually to the ATD to meet the requirements of Paragraph 4 of this Section.

9. The cost estimate for closure shall be based on worst-case conditions and shall be updated annually, or whenever a change in the Closure Plan increases the closure cost, and maintained on-site with the Closure Plan. The updated closure cost estimates shall be submitted to the ATD within thirty (30) days of Salesco-AZ's modification of the estimated closure cost.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

NOV 15 1995

NOV 8 - 1995

Mr. Franklin Sales  
Salesco Systems USA, Inc. - AZ  
5736 West Jefferson Street  
Phoenix, AZ 85043

RE: TSCA PCB Inspection

Dear Mr. Sales:

On May 2, 1995, Yosh Tokiwa, a representative of the US EPA conducted a TSCA compliance inspection of the Salesco facility located at 5736 West Jefferson Street Phoenix, AZ 85043.

Based on the information collected during the inspection, it appears that currently there are no violations of the TSCA at the facility. EPA reserves the right to re-inspect at any time. If the EPA receives new or contrary information about the facility, the agency may open the file for review or conduct another inspection.

Should you have any questions regarding this letter, please contact Yosh Tokiwa at (415) 744-1118.

Sincerely,

*Charles F. Berry for JAS*

Jo Ann Semones, Ph.D.  
Chief  
Toxics Section



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

400 Seventh St. S.W.  
Washington, D.C. 20590

**AUG 04 1995**

**JULY 26, 1995**

IN REPLY REFER TO:  
YOUR USDOT NO.: 529164  
REVIEW NO.: 00180768/CR

SALESCO SYSTEMS USA INC  
SALESCO SYSTEMS USA  
5736 W JEFFERSON  
PHOENIX AZ 85043

DEAR MOTOR CARRIER:

THE MOTOR CARRIER SAFETY RATING FOR YOUR COMPANY IS:

**SATISFACTORY**

THIS SATISFACTORY RATING IS THE RESULT OF A JUL 13, 1995, REVIEW AND EVALUATION. A SATISFACTORY RATING INDICATES THAT YOUR COMPANY HAS ADEQUATE SAFETY MANAGEMENT CONTROLS IN PLACE TO EFFECT SUBSTANTIAL COMPLIANCE WITH THE FEDERAL MOTOR CARRIER SAFETY AND/OR HAZARDOUS MATERIALS REGULATIONS.

PLEASE ASSURE YOURSELF THAT ANY SPECIFIC DEFICIENCIES IDENTIFIED IN THE REVIEW REPORT HAVE BEEN CORRECTED. WE APPRECIATE YOUR EFFORTS TOWARD PROMOTING MOTOR CARRIER SAFETY THROUGHOUT YOUR COMPANY. IF YOU HAVE QUESTIONS OR REQUIRE FURTHER INFORMATION, PLEASE CONTACT THE SAFETY SPECIALIST WHO CONDUCTED THE REVIEW.

ROBERT L. BLEAKLEY  
NATIONAL FIELD COORDINATOR,  
OFFICE OF MOTOR CARRIER FIELD OPERATIONS

- SEE MESSAGE ON BACK -

JAN-14 98 11:59 FROM:

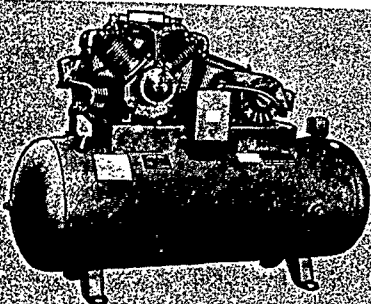
70:602 415 3036

PAGE:02/04

ACORD. CERTIFICATE OF LIABILITY INSURANCE						PAGE 1 OF 2		DATE (MM/DD/YY) 14-JAN-1998	
<b>PRODUCER</b> Wills Corroon Corporation of Arizona 7310 North 16th Street Suite 300 Phoenix AZ 85020-6289 (602) 870-7000			<b>110529</b>		<b>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</b>				
<b>INSURED</b>  <b>SALESCO SYSTEMS USA, INC. - AZ.</b> 5736 W. JEFFERSON PHOENIX AZ 85043					<b>COMPANIES AFFORDING COVERAGE</b>				
<b>Nancy Swansy</b>					<b>COMPANY A</b> AIU Ins. Co.				
					<b>COMPANY B</b> Commerce & Industry Ins. Co.				
					<b>COMPANY C</b> American International Specialty Lines				
					<b>COMPANY D</b>				
<b>COVERAGES</b> THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.									
<b>CO</b>	<b>LT</b>	<b>TYPE OF INSURANCE</b>	<b>POLICY NUMBER</b>	<b>POLICY EFFECTIVE DATE (MM/DD/YY)</b>	<b>POLICY EXPIRATION DATE (MM/DD/YY)</b>	<b>LIMITS</b>			
<b>A</b>		<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR OWNER'S & CONTRACTOR'S PROT	<b>3408194</b>	<b>14-JAN-1998</b>	<b>14-JAN-1998</b>	<b>GENERAL AGGREGATE</b>	<b>\$</b>	<b>1,000,000</b>	
						<b>PRODUCTS-COMPONENTS</b>	<b>\$</b>	<b>1,000,000</b>	
						<b>PERSONAL &amp; ADV INJURY</b>	<b>\$</b>	<b>1,000,000</b>	
						<b>EACH OCCURRENCE</b>	<b>\$</b>	<b>1,000,000</b>	
						<b>TYPE DAMAGE (Any one form)</b>	<b>\$</b>	<b>50,000</b>	
						<b>MED EXP (Any one person)</b>	<b>\$</b>	<b>5,000</b>	
<b>B</b>		<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> <b>ANY AUTO</b> ALL OWNED AUTOS SCHEDULED AUTOS <input checked="" type="checkbox"/> <b>HIRED AUTOS</b> <input checked="" type="checkbox"/> <b>NON-OWNED AUTOS</b>	<b>CAS063369</b>	<b>14-JAN-1998</b>	<b>14-JAN-1998</b>	<b>COMBINED SINGLE LIMIT</b>	<b>\$</b>	<b>1,000,000</b>	
						<b>BODILY INJURY (Per person)</b>	<b>\$</b>		
						<b>BODILY INJURY (Per accident)</b>	<b>\$</b>		
						<b>PROPERTY DAMAGE</b>	<b>\$</b>		
		<b>DAMAGE LIABILITY</b> ANY AUTO				<b>AUTO ONLY - EA ACCIDENT</b>	<b>\$</b>		
						<b>OTHER THAN AUTO ONLY</b>	<b>\$</b>		
						<b>EACH ACCIDENT</b>	<b>\$</b>		
<b>B</b>		<b>EXCESS LIABILITY</b> <input checked="" type="checkbox"/> <b>UMBRELLA FORM</b> OTHER THAN UMBRELLA FORM	<b>8190768</b>	<b>14-JAN-1998</b>	<b>14-JAN-1998</b>	<b>AGGREGATE</b>	<b>\$</b>		
						<b>EACH OCCURRENCE</b>	<b>\$</b>	<b>8,000,000</b>	
						<b>AGGREGATE</b>	<b>\$</b>	<b>8,000,000</b>	
		<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> THE PROPRIETOR/ PARTNER/EXECUTIVE OFFICERS ARE <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				<b>WC STAT. / TORT LIMIT</b>	<b>OTH. PR</b>		
						<b>EL EACH ACCIDENT</b>	<b>\$</b>		
						<b>EL DISEASE-POLICY LIMIT</b>	<b>\$</b>		
						<b>EL DISEASE-EA EMPLOYEE</b>	<b>\$</b>		
<b>C</b>		<b>OTHER Site Pollution</b>	<b>8198118</b>	<b>14-JAN-1998</b>	<b>14-JAN-1998</b>	<b>\$5,000,000 Each Loss</b> <b>\$10,000,000 Aggregate</b> <b>Claims Made</b>			
<b>DESCRIPTION OF OPERATIONS/LOCATION/VEHICLE/SPECIAL ITEMS</b> <b>SEE ATTACHED</b>									
<b>CERTIFICATE HOLDER</b>  <b>SAMPLE CERTIFICATE</b> <b>FOR INFORMATION ONLY</b> <b>ANYWHERE IN USA 00000</b>				<b>CANCELLATION</b> IF DESIRED BY THE INSURED:  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION ON LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.  <i>John B. Jacobs</i> AUTHORIZED REPRESENTATIVE © ACORD CORPORATION 1998					

ATTACHMENT B

# COMPRESSORS



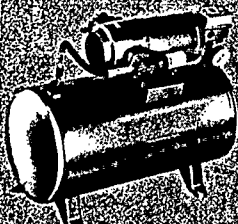
## Two Stage Tank Mount Compressor

Powerful industrial compressors build air pressure in two steps: they draw air into a large cylinder where it is compressed to medium pressure, then discharge it into a smaller cylinder for further compression. Maximum operating pressure is 200 psi. Compressors feature automatic pressure switch for loadless starting. They stop and automatically keep pre-determined pressure in tanks. Switch cuts at 140 psi and cuts off at 175 psi.

The National Electrical Manufacturers' Association standard 1000 motor is V-belt driven and operates on 230/460-volts, 3-phase/60 Hz. Mounted on an American Society of Mechanical Engineers (ASME) National Board code air tank.

Complete with a totally enclosed belt guard, air gauge, ASME proved safety valve, and an intake filter/separator. On models 3 hp and over a 230-volt magnetic starter is included. Magnetic starter is optional on 1 1/2 and 2 hp models. On units with magnetic starter specify 230/460-volt. Units with 460-volt magnetic starter or 50 Hz are available. Specify No. 4364K999 and hp. Prices on request.

Disp. cfm	Approx. Free Air cfm	Comp. Speed rpm	Tank Cap. Gals.	Bore, Inches	Stroke, Inches	Overall, Inches	No.	NET EACH
				Low Press.	High Press.	Lg. Wd. Ht.		
10.5	5.3	1 1/2	542	80	4 1/2	2 1/2 26 20 44	4364K32	\$1695
14.1	7.5	2	726	80	4 1/2	2 1/2 26 20 44	4364K44	2077
20.7	10.5	3	1010	80	4 1/2	2 1/2 26 20 44	4364K55	2035
36.1	18.2	5	1710	80	4 1/2	2 1/2 26 20 44	4364K36	3065.70
44.6	22.3	7 1/2	2200	80	4 1/2	2 1/2 26 20 44	4364K37	3538.00
61.5	30.7	10	2770	80	4 1/2	2 1/2 26 20 44	4364K38	4379.20
93.0	46.5	15	4100	120	6 1/4	3 1/4 42 29 58	4364K39	5567.97
109.4	54.7	20	4655	120	6 1/4	3 1/4 42 29 58	4364K41	5935.70
109.4	54.7	25	4770	120	6 1/4	3 1/4 42 29 58	4364K41	5935.70
♦ Magnetic starters for these compressors:								
1 1/2 hp (specify 230-volt or 460-volt)								
2 hp (230-volt)								
2 hp (460-volt)								
No. 4364K55 NET EACH \$1725								
No. 4364K53 NET EACH 2053								
No. 4364K57 NET EACH 1725								



## Single Stage Tank Mount Air Compressors—1/4 HP

Built tough for industrial plants and laboratories where compressed air up to 100 psig is required. Mounted on a 12-gallon American Society of Mechanical Engineers tank. Oil-less twin-cylindrical piston design, air-cooled.

Working Pressure, psig	Free Air, cfm	Switch Cuts In, psig	Overall Size, In.	No.	NET EACH
			Lg. Wd. Ht.		
100	2.0	30 psig	26 1/4 13 20 1/8	9900K12	\$678.00
100	2.0	70 psig	26 1/4 13 20 1/8	9900K14	698.35

Units are driven by a thermally protected 1/4 hp motor that operates on 115-volt, 60 Hz. Equipped with a filter, safety valve, pressure gauge, pre-set adjustable pressure switch, and shut-off and check valves.

## Single-Stage Blower/Compressors

Centrifugal units deliver substantial air flows at moderate pressures. Ideal for pneumatic conveying, sorting, film dryers, and agitation of fluids and semi-solids. Oil-free air. Easily changed from pressure to suction use, and may be mounted in a variety of positions. Direct connect motor shaft impeller provides reliable performance. No gears.

Volts	Phase	Max. Static Water Pressure, psi	Connec. Flow, scfm	No.	NET EACH
200-230	3	26.5	11	27 9980K11	\$377.63
200-230/460	3	50.5	11	55 9980K13	462.48
200-230/460	3	54.5	11	98 9980K14	503.07
115	1	27.5	2	206 9980K16	958.57
115	1	27.5	2	27 9980K17	433.90
115/230	1	34.5	1	42 9980K18	449.28
		53	1 1/2	94 9980K21	580.03

## Compressor Heads

Single and two-stage compressor heads are for replacement and for assembly of complete compressors (motor is not included). Positive splash lubrication system controls.

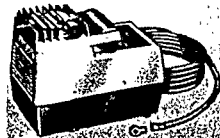
No. of Cyls.	Free Air, cfm	Motor, rpm	hp	Bore Size, Inches	Stroke, Inches	Overall, Inches	No.	NET EACH
						Lg. Wd. Ht.		
SINGLE STAGE—100 PSI MAXIMUM WORKING PRESSURE								
1	1.80	890	1/4 to 1/2	2 1/2	1 3/4	5 1/4 6 1/2 10 1/4	4368K11	\$246.84
2	5.37	810	1 to 1 1/2	2 1/2	6	10 1/2 10 1/2 10 1/2	4368K17	455.00
TWO STAGE—175 PSI MAXIMUM WORKING PRESSURE								
3	3.80	780	3/4 to 1	2 1/2 x 1 1/4	2	8 1/2 15 10 1/2	8777K11	\$433.40
3	6.75	720	1 1/2 to 2	2 1/2 x 1 1/4	2	8 1/2 15 10 1/2	8777K12	578.82
4	16.5	710	3 to 5	4 x 2 1/2	3	20 18 12 1/2	8777K13	916.58
4	34.4	765	7 1/2 to 10	4 x 2 1/2	3	21 1/2 24 20 1/2	8777K14	1465.63

♦ With largest motor for this unit in the "Suggested Motor hp" column. ♦ Have finned intercooler.

## Multi-Set Oil-less Piston Air Compressor

Plenty of air pressure for air tools—excellent for spraying paint and insecticides, sandblasting, inflating, cleaning, and stapling. Has five adjustable pressure settings: 10, 30, 50, 70, and 100 psi. UL listed unit has an air delivery of 2.2 cfm at 50 psi and 1.3 cfm at 100 psi. Maximum operating pressure is 100 psi.

This high-powered compressor is powered by a direct-drive, 1/2 hp, split-phase, thermal overload protected motor that operates on 115-volt, 60 Hz. Furnished with a 15-foot air hose, bleed air chuck, safety valve, rubber feet, 6-foot cord, with a 3-prong plug, and an on/off switch. No. 9991K17. NET EACH \$169.00



High-quality compressors are re- industrial and laboratory applica- tions are irregular and reserve required for peak loads. They sup- ply of air at low pressures. Equipped with pressure switch.

Pressure gauge, safety valve, ta- valve, and enclosed belt guard are standard equipment. The tank con- forms to ASME specifications.

Available in horizontal and verti- cal. HORIZONTAL TANK-MOUNT COM- PRESSOR 3 HP—Note: Motors on two-cy- linder starter and thermal overload cuters on one-cylinder models do not. VERTICAL TANK-MOUNT COM- PRESSOR 2 HP—The 1/2, 3/4, and 1 hp models. The 1 1/2 and 2 hp models have two. The 1/2 and 3/4 hp models include a protected motor. For motors on oth- er starter is available as an optic.

Disp. cfm	Free Air cfm	hp	Voltage (Ph)
HORIZONTAL MOUNT, SPLASH LI			
2.8	1.9	1/2	115/230 (1)
2.8	1.9	1/2	230/460 (3)
4.5	2.8	3/4	115/230 (1)
4.5	2.8	3/4	230/460 (3)
5.5	4.0	1	230/460 (3)
8.4	5.7	1 1/2	230/460 (3)
HORIZONTAL MOUNT, PRESSURE			
12.8	7.4	2	230/460 (3)
20.9	12.5	3	230/460 (3)
VERTICAL MOUNT, SPLASH LUBR			
2.8	1.6	1/2	115/230 (1)
2.8	1.6	1/2	230/460 (3)
3.7	2.4	3/4	115/230 (1)
3.7	2.4	3/4	230/460 (3)
5.0	3.3	1	230/460 (3)
8.0	5.7	1 1/2	230/460 (3)
9.7	6.9	2	230/460 (3)
♦ Starter is for 230-volts. For 460-v			
♦ Magnetic starters for these comp			
1 or 1 1/2 hp (Specify 230-volt or 460			
2 hp (230-volt)			
2 hp (460-volt)			

## Pneumatic Ga

These portable air-driven, oil-free pressors are excellent for boostin- ing gas pressures. For use with an inert gas except oxygen. Maximi- drive pressure is 160 psi. Special s- sign prevents contaminants from ai- section from entering gas system. A- section is factory pre-lubricated- line lubricator needed.

All models have exhaust muffler t cool gas section. Double-action n get an added boost in pressure fro-

Max. psi	Gas Suction Pressure	Output scfm	Max. Flow @ 90 psi
870	6.5 @ 200	1.7	
870	2.4 @ 250	3.5	
4640	1.1 @ 500	0.5	
4640	1.6 @ 1000	0.5	

## Mobile Mini Com

This compact, fully operation- al, single cylinder electric air compressor is directly connect- ed to a 3/4 hp, 115-volt, 1-phase electric motor. Unit features a 2 1/2 gallon tank carl mounted on rub- ber-tired wheels for portability.

Forced air cooling and splash lubrication. It comes with an automatic pressure switch which cuts in at 87 psi and cuts off at 116 psi, a stop/start button, safety valve, pressure gauge, and a 3-foot cord with a 3-prong plug. Free air deliv- ery is 2.8 cfm at 40 psi, and 2.3 cfm at 100 psi. Max. pressure is 116 psi. Size: 16" long x 12 1/2" wide x 25" high. Weighs 53 1/2 lbs. No. 9990K27. NET EACH \$372.88

## PS-E, PS-EH, and PS-EV Series— Economical Miniature Pressure Switches

- ▶ Vacuum to 3000 PSI (210 bar)
- ▶ High Proof Pressures
- ▶ Variety of Pressure Ports and Lead Wires Available

The Gems PS-E Series are designed for demanding applications where space and/or price are strong concerns. The switches utilize a piston/diaphragm design, which incorporates the high proof pressure of piston technology with the sensitivity of diaphragm designs. The switches can be field or factory set by a hidden Allen head adjustment that ensures against unauthorized tampering.

### Specifications

Ambient Temperature	-40°F to +176°F (-40°C to +80°C)
Switch	5 Amp, SPDT@120/240 VAC and 12/24 VDC (>2 million cycles)
Approvals	Microswitch is UL and CSA Recognized
Repeatability	2% of Highest Set Point @ 68°F (20°C)
Wetted Parts	
Diaphragm	Buna-N (Optional EPDM or Viton®)
Fitting	Zinc-Plated Steel (Optional SS or Brass)
Electrical Termination	IP65 (Nema 4) DIN 43650A, or 18" (0.5m) Long, 18 AWG (0.82mm²) PVC Jacketed Lead Wires (Optional IP68 Submersible Lead Wires)
Pressure Port	G or 1/4" NPT Male (E Series Also Features 1/8" NPT Male) (E, EH Also Available in 7/16"-20)
Proof Pressure	PS-E, EV 350 psi (25 bar) PS-EH 9000 psi (600 bar)
Weight, Approximate	0.3 lbs. (0.14 kg)

### How To Order

Use the **Bold** characters from the chart below to construct a product code.

SELECT	PS	-E	-1	-4G	-C	-HC	-X
1. Series							
-E low pressure; -EH high pressure; -EV vacuum							
2. Insert Range Code From Table Below							
3. Pressure Port							
-4M 1/4" NPT male; -4G G 1/4 male; -4S 7/16-20" UNF male							
4. Circuit							
-C SPDT; -A SPST/NO; -B SPST/NC; (-A and -B options pertain to -FL versions)							
5. Electrical Terminations							
-FL flying leads; -FLWL flying leads w/weather pack connector; -H DIN male only; -HC DIN connector w/strain relief; -HN DIN connector w/1/2" conduit							
6. Options							
-1 Viton® diaphragm; -2 EPDM diaphragm; -3 316 ss for 1/4" ports; -4 brass for 1/4" ports; -7 gold electrical contacts; -9 reduced deadband; -B oxygen cleaned; -20 IP68 submersible (*); -SR surge restrictor; DIN connection w/light also available							

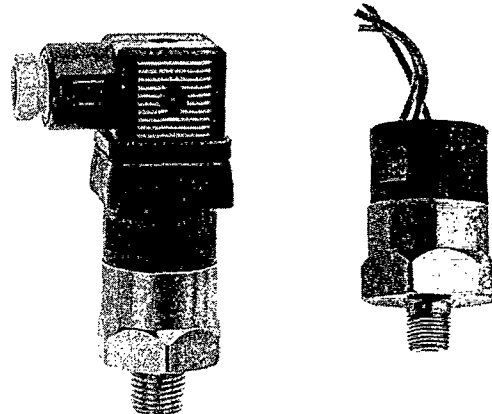
Note: (+) For factory-set units specify set points and units followed by -R for rising or -F for falling

Example: PS-E-50psi-R-4M-A-FL (50psi, Rising, 1/4" NPT, Normally Open Switch, Leads)

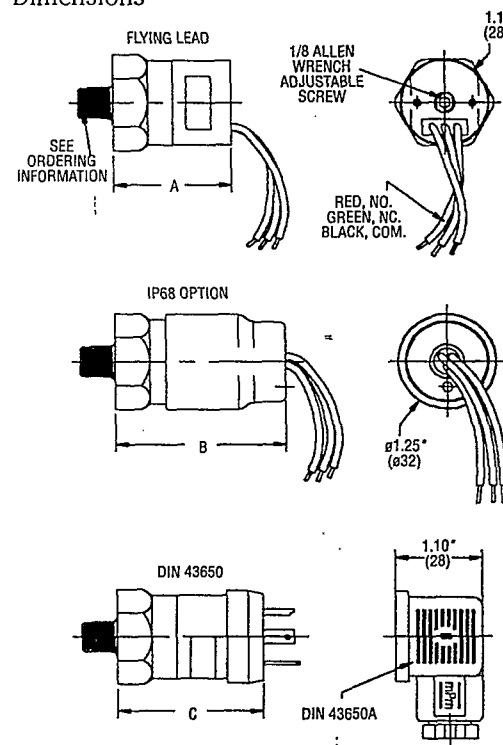
(\*) submersible option requires wire leads and factory preset set points (units are not field adjustable)

Series	Pressure Range Code	Adjustable Range	Average Dead Band
★ PS-E Pressure Switch	-1	3-7 psi 0.2-0.5 bar	1-2 psi 70-140 mbar
	-2	5-30 psi 0.35-2 bar	2-4 psi 140-280 mbar
	-4	★ 25-100 psi 1-7 bar	3-12 psi 210-850 mbar
PS-EV Vacuum Switch	-1	5-15" Hg 150-500 mbar	3-5" Hg 100-150 mbar
	-2	12-28" Hg 400-925 mbar	3-6" Hg 100-200 mbar

Series	Pressure Range Code	Adjustable Range	Average Dead Band
PS-EH High Pressure Switch	-1	10-30 psi 0.7-2 bar	4-6 psi 0.25-0.4 bar
	-2	25-75 psi 1.5-5 bar	5-10 psi 0.35-0.65 bar
	-3	65-300 psi 4-20 bar	20-40 psi 1.3-2.6 bar
	-4	250-1000 psi 17-70 bar	40-85 bar 2.6-5.7 bar
	-5	1000-3000 psi 70-210 bar	120-220 psi 8-15 bar



### Dimensions

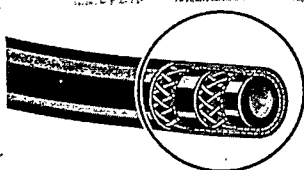


Series	Dimension inches (mm)		
	A	B	C
PS-E; PS-EV	1.50" (36)	2.16" (55)	1.85" (47)
PS-EH	1.73" (44)	2.39" (61)	2.08" (53)



# Air Hose

## Medium Duty Air Hose and Assemblies



Hose ID	M & F Cplgs.	Assemblies No. NET EACH
25-Fl. Lengths, 300 PSI Work Pressure		
1/4" x 1/4"	5304K61	\$10.77
3/8" x 1/4"	5304K62	13.08
3/8" x 3/8"	5304K63	13.49
1/2" x 1/2"	5304K64	16.38
50-Fl. Lengths, 300 PSI Work Pressure		
1/4" x 1/4"	5304K71	\$20.34
3/8" x 1/4"	5304K72	24.79
3/8" x 3/8"	5304K73	25.21
1/2" x 1/2"	5304K74	30.04

Suitable for air operated portable tools, air control lines, tire inflating, blowgun hose and other light and medium duty industrial uses. Has good abrasion and weather resistance. Limited oil resistance. Construction: Tube and Cover—EPDM.

Reinforcement—high tensile strength yarn braid.

Couplings: 3/16" through 1/2" are machined brass IPT barbed inserts. 3/8" and up are long shank cast brass IPT, except as noted.

Hose ID x OD	Work Pres. PSI	No.	NET/FOOT	50-Fl. Length	M & F Cplgs. Attached	M & F Cplgs. Attached
3/16" x 1/16"	250	5304K42	\$0.78	\$0.63	5304K51	\$1.88
1/8" x 1/8"	200	5304K43	.34	.28	5304K32	1.56
1/4" x 1/4"	300	5304K16	.49	.40	5304K33	1.56
3/8" x 3/8"	300	5304K19	.54	.44	5304K35	1.85
1/2" x 1/2"	300	5304K22	.49	.39	5304K36	2.29
3/8" x 3/8"	300	5304K24	.61	.49	5304K37	2.29
1/2" x 1/2"	300	5304K26	.58	.47	5304K38	3.49
3/4" x 3/4"	300	5304K28	.71	.57	5304K39	3.49
1" x 1"	300	5304K43	.70	.56	5304K52	11.56
1 1/4" x 1 1/4"	300	5304K31	.82	.66	5304K41	10.97
1 1/2" x 1 1/2"	300	5304K44	.97	.78	5304K53	11.93
1 3/4" x 1 3/4"	150	5304K45	1.36	1.09	5304K54	16.72
2" x 2"	150	5304K46	2.24	1.80	5304K55	29.07
2 1/2" x 2 1/2"	150	5304K47	2.80	2.25	5304K56	34.51

◆ Malleable Iron Universal Hose Couplings

## Tuf Neoprene Air Hose and Assemblies



Hose ID	M & F Cplgs.	Assemblies No. NET EACH
25-Fl. Lengths, 300 PSI Work Pressure		
1/4" x 1/4"	5305K61	\$13.48
3/8" x 1/4"	5305K62	17.33
3/8" x 3/8"	5305K63	17.74
1/2" x 1/2"	5305K64	24.39
50-Fl. Lengths, 300 PSI Work Pressure		
1/4" x 1/4"	5305K71	\$25.78
3/8" x 1/4"	5305K72	33.35
3/8" x 3/8"	5305K73	33.76
1/2" x 1/2"	5305K74	46.13

Highly recommended for applications where air line lubrications are used or where hose is exposed to conditions of oil, gasoline, or grease. Resistant to weathering and abrasion.

For use with pneumatic grinders and drills, chipping, scaling, and riveting hammers, and other shop tools. Used in industry, construction, mining, and quarry

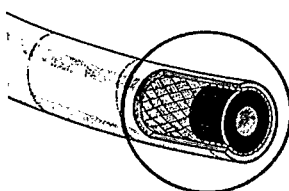
service. Available with male and female brass IPT couplings.

Construction: Tube and Cover—oil resistant neoprene. Reinforcement: high tensile strength yarn braid.

Couplings: 3/8" and 1/2" are machined brass barbed inserts. 3/4" and up are long shank cast brass.

Maximum continuous length is 150 feet.

## Heavy Duty Wire Braid Air Hose



Ruggedly constructed hose is ideal for chipping hammers, pneumatic drills, and other tools in industry, construction, and mining. Bends easily into tight spots without loss of pressure. Resists crushing and kinking. Tube has oil resistance and will not soften, swell, or flake.

Construction: Tube—nitrile. Reinforcement—high tensile strength steel wire braid with textile breaker. Cover—yellow abrasion and oil resistant fabric impression.

Hose ID x OD	Braid No.	NET/FOOT
1/4" x 1/4"	5630K11	\$2.94
3/8" x 1/2"	5630K12	3.31
1" x 1 1/2"	5630K13	4.21
1 1/4" x 1 3/4"	5630K14	6.25
2" x 2 1/2"	5630K16	8.81

ment—high tensile strength steel wire braid with textile breaker. Cover—yellow abrasion and oil resistant fabric impression.

Couplings: Malleable iron, 4-bolt interlocking clamp type.

Working pressure for all sizes is 1000 psi.

Hose ID x OD	Length	NET/FOOT	M & F Cplgs. Attached
1/4" x 1/4"	50-Fl. Length	5630K21	\$118.64
3/8" x 1/2"	126.32	5630K22	126.32
1" x 1 1/2"	160.53	5630K23	160.53
1 1/4" x 1 3/4"	240.35	5630K24	240.35
2" x 2 1/2"	308.06	5630K26	308.06

## Air Hose Assemblies

Air hose is ideal for servicing pneumatic tires and filling air tanks in garages and maintenance departments.

Hose is 1/4" ID x 3/16" OD. Construction: Tube and Cover—Black EPDM. Reinforcement: synthetic yarn braid. 1/4" male IPT brass barbed inserts, ferrule clamped. Working pressure: 300 psi.

Length	With Chuck	Without Chuck
FL	No. NET EACH	No. NET EACH
25	5313K11...\$17.26	5313K13...\$14.61
50	5313K12...24.74	5313K14...22.60

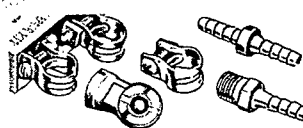
## Snubber Hose Assemblies



For use with impact wrenches, air hammers, and other pneumatic tools. Installed between tool and coupler body, this 24" length of hose will absorb shock and vibration, improving coupler life. Working pressure: 250 psi. Burst pressure: 1000 psi.

Hose ID	Fittings	No. NET EACH
1/4" MPT	5366K61	\$9.18
3/8" MPT	5366K62	9.30
1/2" MPT	5366K63	10.86

## Air Hose Repair Kits



A 6-piece kit for all 1/4" ID air hose. Ideal for garage or factory use for fast on-the-spot repairs.

Kit includes: 1 female air chuck (1/4" NPT); 1 male hose end (1/4" NPT x 1/4" ID hose); 1 hose mender (1/4" ID hose on both ends); 3 hose clamps (3/8" OD hose).

No. 5452K12...NET EACH \$4.29

McMASTER-CARR

# Air

## Retra

Self-storing air hose stretches and recoils like a telephone cord. Adapts to horizontal and overhead installations. For use with impact wrenches, drills, blowguns, dusting guns, moving air cylinders, belt sanders, air sanders, riveters, and other air operated tools. Tough yellow nylon hose is abrasion, oil, and grease-resistant.

Supplied with reusable brass fittings, rigid male pipe thread one end, swivel male pipe thread other end. Working pressure: 200 psi.

## Bulk Ny

Retractable red nylon air hose in 50 and 100-foot choice of fittings to make custom length hose to suit requirements. Nylon hose is resistant to oils, gasoline, and abrasion. Working pressure is 180 psi.

Body assemblies include body, ferrule and In. Swivel bodies also include spring guard. Spring required for 3/4" size.

ID	Length Feet	Hose No. NET EACH	Fer No.
1/4"	50	5644K11	\$14.13
3/8"	100	5644K12	26.55
1/2"	100	5644K13	27.66
3/4"	100	5644K14	46.84
1"	100	5644K15	46.28
1 1/4"	100	5644K16	73.51
1 1/2"	100	5644K17	127.66

ID	No. NET EACH	No. NET EACH
1/4"	5644K31...\$0.35	5644K41...\$0.35
3/8"	5644K32...41	5644K42...35
1/2"	5644K33...43	5644K43...35
3/4"	5644K34...47	5644K44...47
1"	5644K35...53	5644K45...53
1 1/4"	5644K36...76	5644K46...100
1 1/2"		5644K47...143

## Instant Retr

Handy kit allows you to make custom instant recoil air hose to the exact length required. Assembly is fast, accurate, and the connection is permanent. No special tools required. Eliminates need to carry a variety of preassembled lengths. For all movable applications such as air cylinders, blowguns, drills, and robots. One foot of tubing will extend to ten feet. Hose instantly recoils, which clears up the work area. Eliminates need for reels.

Kit consists of: two 100-ft. lengths of coiled nylon hose; 20 brass instant fittings with Buna-N O-Ring; 20 brass tube inserts; 20 steel spring guards.

## Polyethyl

Handles almost all chemicals where temperature of solutions does not exceed 150°F. For acids, bases, and solvents including aromatics, aliphatics, chlorinated hydrocarbons, ketones, aldehydes, and esters.

Lightweight and flexible. Hose is designed with polyester braid and helix wire construction that makes it suitable for full suction and discharge

Hose ID x OD	Work Pres. PSI	Min Radius	Hose No. NET/FOOT	No.
1" x 1 1/2"	150	5"	5534K21	\$9.15
1 1/4" x 1 3/4"	150	6"	5534K22	9.91
1 1/2" x 2"	150	8"	5534K23	11.72

## Nylon

Nylon tube handles air, oil paint, and many chemicals and solvents, ranging from acetone to xylene. High working pressure makes hose suitable for many spray and applicator applications.

Hose is extremely flexible and easy to handle. The smooth, nonporous molded nylon tube is reinforced with high tensile strength synthetic yarn braid. Will not crack or swell. Tough red synthetic molded compound cover withstands the abrasion of rough use and resists oil and weathering.

Temperature range: -40° to 180°F for liquid and -40° to 160°F for air.

Refer to pages



# HammerHead™ High Performance Automatic Air-Driven Pumps



*The toughest landfill and cleanup pumps...with unsurpassed 4" well performance, and the only proven 2" automatic pump.*

The HammerHead™ pump lineup includes controllerless air-driven pumps for tough landfill and cleanup jobs - flow to 15 GPM / 57 LPM, (21,600 GPD / 82,080 LPD) deep wells or high discharge head (to 300' / 91 m), corrosive or high-solids conditions, and small diameter wells (2" / 50 mm).

Top and bottom inlet models serve many applications: landfill leachate and condensate control, floating layer skimming, drawdown pumping, ground water cleanup, and more..

## Fully Automatic Operation

All HammerHead pumps give you the advantages of advanced controllerless operation. They sense liquid level internally, running when there's enough to pump, and shutting down automatically when well levels drop too low - without cycle timers, electrical connections, downwell probes, or level controllers.

This makes installation and startup much easier. Hands-off operation is more efficient than conventional pneumatics, saving air and delivering higher flow. Each pump automatically adjusts to its own well conditions,

## Durability and Low O&M

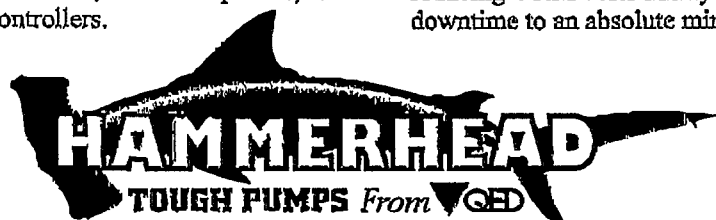
Reliable, high-clearance design is engineered to a new standard in HammerHead pumps. Critical parts are solid investment castings for superior strength and chemical resistance.

Massive, self-cleaning ball check valves provide optimum flow and prevent clogging by solids or viscous substances. Positive action, magnetic assist Hammer Drive air valving ensures dependable operation, even with sub-standard air quality.

Disassembly is easy, and maintenance can be performed in the field, reducing O&M costs and system downtime to an absolute minimum.

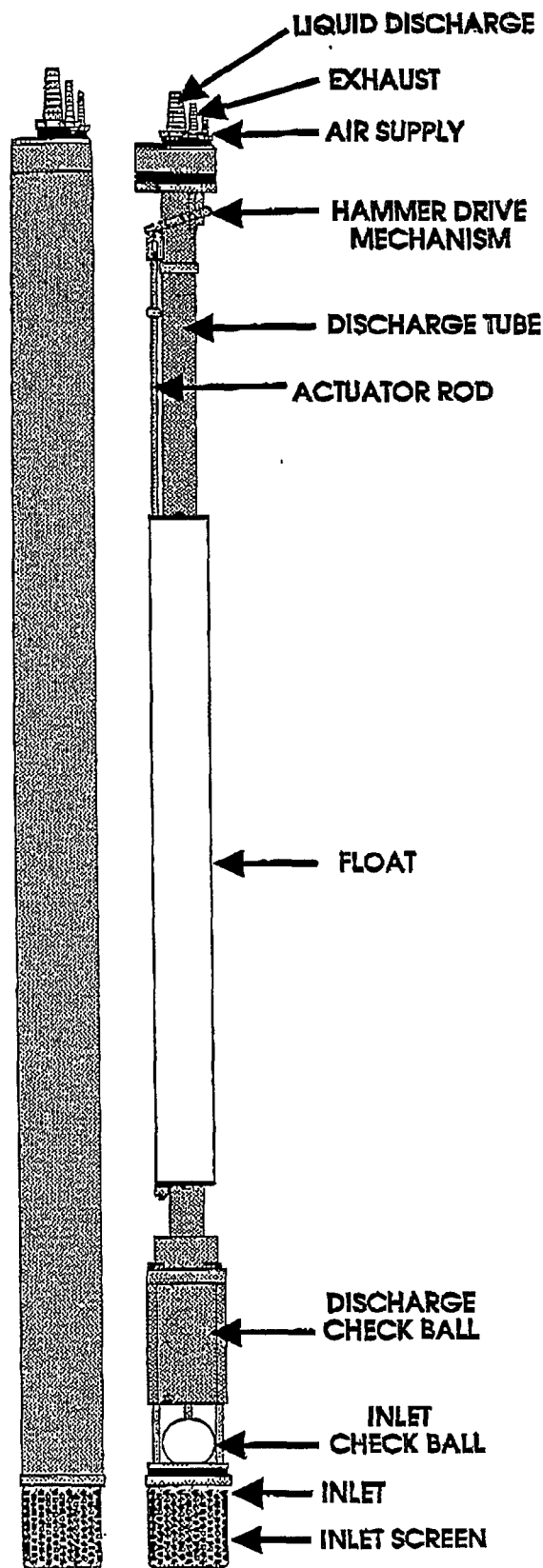
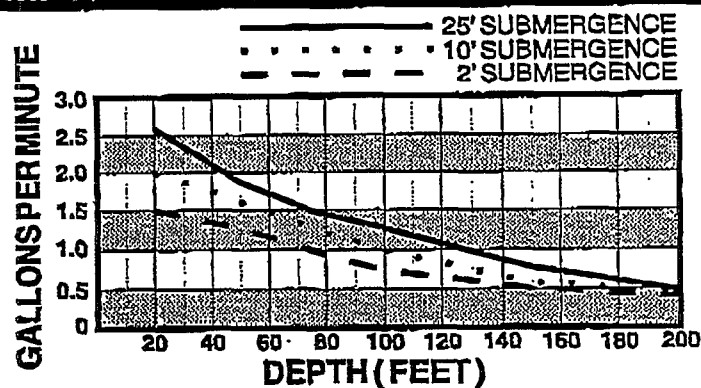
## HammerHead™ Pump Advantages

- The highest flow rates of any automatic air-driven pumps.
- Ultimate reliability/low O&M with stainless steel bodies and one-piece cast stainless air valving standard.
- Massive, 1-1/2" inlet check ball for superior solids clearance.
- Oversize standoff inlet screens for greater intake capacity.
- Easy, full field disassembly without disconnecting air and water tubing from pump.
- Unmatched QED service and support, with a 2 year warranty.



**QED Environmental Systems, Inc.** P.O. Box 3726, Ann Arbor, Michigan 48106

734-995-2547 800-624-2026 Fax: 734-995-1170 E-Mail: [info@qedenv.com](mailto:info@qedenv.com) Website: <http://www.toughpumps.com>

**TECHNICAL DATA / SPECIFICATIONS SHEET****HAMMERHEAD 2" Bottom Inlet****Pulse Pump  
Model H23SEB****Specifications:****Pump Type:** Positive Air Displacement**Dimensions:****Pump O.D.:** 1.75"**Length:** 39.5"**Weight:** 5.75 lbs.**Materials:** Stainless Steel Construction, With Teflon Inlet And Discharge Check Balls, Epoxy Float, Viton O-rings,**Fittings:** Type: Stainless Steel Barbs**Tubing:** Discharge Size: 1/2" O.D.  
Air Supply Size: 1/4" O.D.  
Exhaust Size: 3/8" O.D.**PUMP PERFORMANCE:****OPERATING PRESSURE RANGE:** 15-100 P.S.I.**MAXIMUM LIFT:** 200 FEET**MAXIMUM FLOW RATE:** 2.5 G.P.M.**PUMP STROKE VOLUME:** 250 ml. (.07 gal.)**PUMP FLOW RATES:****AT 100 P.S.I.**

NOTE: THIS PUMP REQUIRES A MINIMUM OF 3' OF LIQUID (MEASURED FROM BOTTOM OF PUMP) TO BEGIN PUMPING. THE PUMP AUTOMATICALLY SHUTS OFF WHEN THE LIQUID LEVEL IS PUMPED DOWN BELOW THIS LEVEL, AND WILL AUTOMATICALLY BEGIN PUMPING AGAIN ONCE THE WELL'S LIQUID LEVEL HAS RECOVERED.

**ACCESSORIES:**

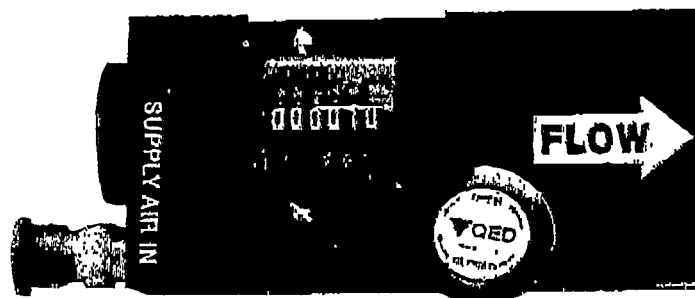
P/N 37055 KIT REGULATOR/GAUGE-2"

P/N KIH2ST KIT-TOP INLET CONVERSION

**TOUGH PUMPS™**

# Flow Control Accessories

*Proven pump cycle counter delivers easy, accurate flow totalization.*

**Model 37000 Counter**

Conventional fluid meters are not reliable for measuring the pulsing type of flow produced by pneumatic displacement pumps. In the past, this made it difficult to totalize flow for site management, reporting or regulatory requirements.

Now with QED's Pump Cycle Counters, accurate flow measurement is easy for users of controllerless Hammerhead and Solo II pumps. These pumps deliver a consistent volume of liquid with each stroke. Counting the pump cycles and multiplying by the stroke volume gives the flow total.

In addition, dividing the pump cycles by the time interval tells you how fast the pump is cycling. Our sec-

ond-generation counters, have been engineered for a wider range of site conditions. Because they work on the compressed air line, the counters are ideal for cold weather applications where typical water flow meters have potential freezing problems. Remote display capability is also available; please inquire.

QED mechanical cycle counters have been widely accepted and proven in use on a large variety of cleanup and landfill sites. The new electronic model offers additional options, including a high contrast LCD readout, several reset modes, an integral alkaline battery (no outside power needed), and remote display up to 1/4 mile from the pump.

*Tank-full shutoff for positive protection.*

**L374 Controller Module****L374 Sensing Tube**

QED's Tank Full Shutoff senses when your recovery tank is full and automatically shuts off the pump air supply, conserving air and preventing system operation until an empty tank is available. This protects against accidental overflow without requiring frequent site visits.

The control module is connected between the air source and pump(s) or controller(s). The sensing tube assembly threads into a standard 2" NPT fitting on the recovery tank or drum. The unit is inherently reliable, with fail-safe start-up/reset procedure and no floats or bubbletraps to malfunction.

**CYCLE COUNTER SPECIFICATIONS**

<b>Model No.:</b>	37000
<b>Operation:</b>	Mechanical pneumatic
<b>Display:</b>	Rotating number wheels
<b>Dimensions:</b>	2.25" H x 4.5" W x 2.13" D (5.7 x 11.4 x 5.4 cm)
<b>Materials:</b>	Anodized aluminum, brass, plastic
<b>Weight:</b>	1 lb. (.45 kg) shipping weight
<b>Temp. Range:</b>	0° - 140° F (-18° - 60°C)
<b>Max. Pressure:</b>	200 psi (1380 kPa)
<b>Flow Capacity:</b>	Normal flow 5 SCFM (8.5 m3/h); maximum flow 20 SCFM (34 m3/h)
<b>No. of Counts:</b>	0 - 999,999
<b>Connections</b>	
<b>Included:</b>	1/8" male NPT air "in" connection. 1/8" female NPT air "out" connection. 1/8" brass street elbow - 2 ea.

**SHUTOFF SPECIFICATIONS**

<b>Model No.:</b>	L374
<b>Dimensions:</b>	Control module 8.25" H x 10.5" W x 6.5" D (21 x 27 x 16.5 cm); sensing tube 1.88" O.D. x 37" (94 cm) L
<b>Weight:</b>	Control module 6 lbs. (2.7 kg), sensing tube 1 lb. (.45 kg)
<b>Temp. Range:</b>	35° - 180° F (2° - 82°C)
<b>Pressure Range:</b>	40-100 psi (275-700 kPa)
<b>Maximum Flow:</b>	40 SCFM @ 100 psi (88 m3/h @ 700 kPa) (runs up to 10 pumps)
<b>Connection</b>	
<b>Thread Size:</b>	Air tubing 1/4" NPT; sensing tube 2" NPT
<b>Maximum Air</b>	
<b>Tube Length:</b>	250' (75 m)

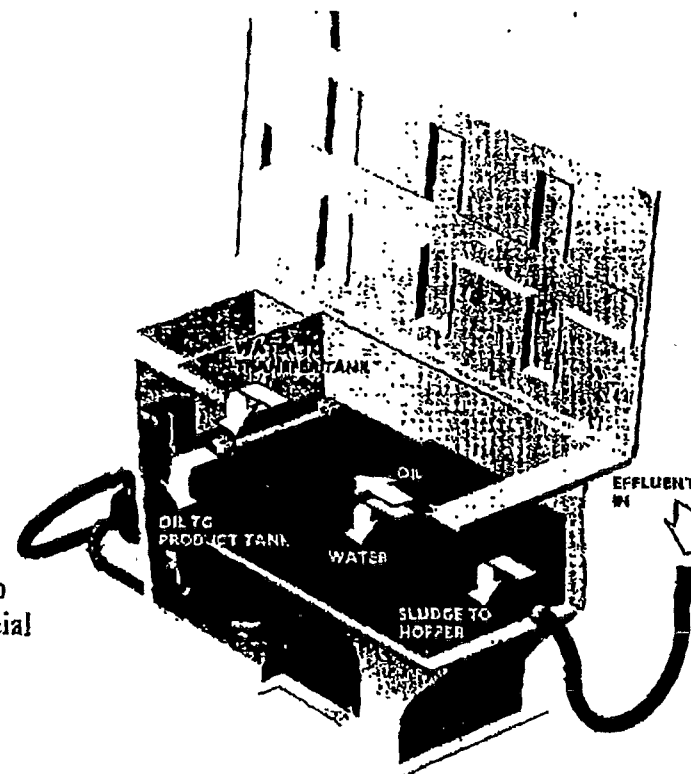
# Oil/Water Separators

**QED SEPARATORS, WITH EXCLUSIVE  
INTEGRAL-TANK DESIGN**

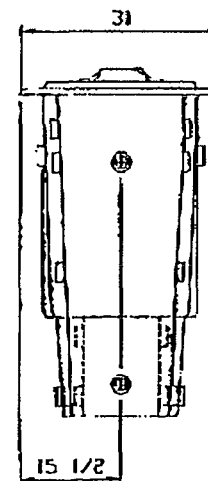
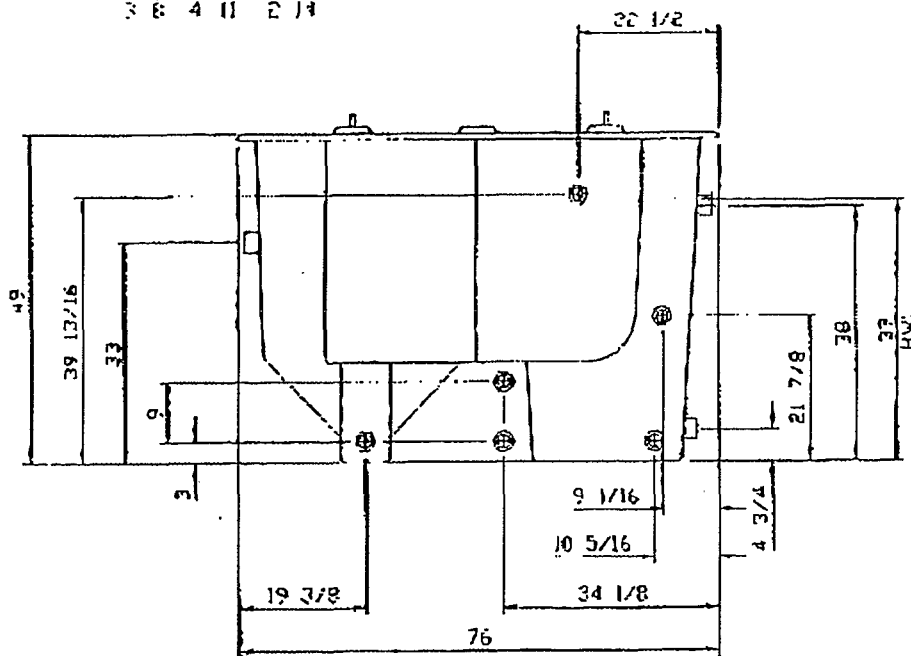
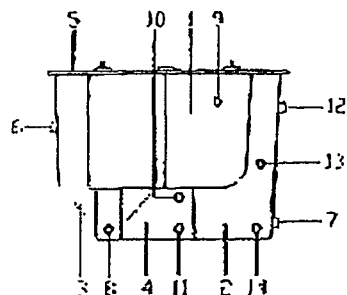
## INNOVATIVE ENGINEERING FITS YOUR SITE NEEDS

QED oil/water separators are the only separators on the market that integrate the product and transfer tanks and the sludge collection hopper into one unit. Everything is built right in for easier installation, operation and emptying, with less piping and a smaller footprint. The integral sludge collection hopper stores sludge for convenient removal without fouling the media pack, and the exclusive, integrated design eliminates worry about leakage.

Our separators are process-engineered to match your site requirements, with a full range of sizes and capacities to 77 G.P.M. available (200 G.P.M. by special order). Using a computer model, we will specify the most efficient, up-to-date API standards-based coalescing OWS configuration for your system.



# DP-8A Oil Water Separator 1-30 GPM



ITEM	QTY	DESCRIPTION
1	1	SEPARATION CHAMBER, 937 GAL
2	1	EFFLUENT CHAMBER, 11 GAL
3	1	SUDGE COLLECTION CHAMBER, 19 GAL
4	1	OIL RESERVOIR, 13 GAL
5	1	REMOVABLE LID WITH HANDLES
6	1	INLET, 2" Ø
7	1	DISCHARGE, 2" Ø
8	2	SUDGE OUTLET / DRAIN 2" Ø
9	2	OIL OUTLET, 2" Ø
10	2	OIL RESERVOIR INLET, 2" Ø
11	2	OIL RESERVOIR OUTLET / DRAIN, 2" Ø
12	1	HIGH LEVEL FITTING, 2" Ø
13	2	OPERATING LEVEL FITTING, 2" Ø
14	2	EFFLUENT CHAMBER DRAIN, 2" Ø

Post-it <sup>®</sup> Fax Note	7671	Date	# of pages
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PROPOSAL

TS-COBT-A02

Sump Pumps

Submersible Centrifugal Sump Pumps

omy Vertical Sump Pumps

Ideal for draining water and seepage below water level and for controlling flooding conditions in cellars and loading docks. Pumps have built-in float-actuated water level switch, nonclogging impeller, and 1 1/4" ft discharge. Motor is 115 volts, AC, 60 Hz, 1-ph with 8-ft, 3-wire cord and plug.

MODEL 1—ABS plastic float with galvanized steel column and drive shaft. Suitable for temperatures up to 180° F. Motor is 1/2 hp. Sump depth is 20". Pump height is 32".

PUMP PERFORMANCE

Head, Ft.	5	10	15
GPH	2940	2400	1920

No. 4330K31.....NET EACH \$89.55

MODEL 2—Stainless steel column and drive shaft with cast bronze base, copper float ball and brass float stops. Overload protected motor is 1/2 hp. Sump depth is 26". Pump height is 32".

PUMP PERFORMANCE

Head, Ft.	5	10	15
GPH	3600	2500	1600

No. 4330K21.....NET EACH \$218.57

Plastic float, float rod support, base and shaft offer assistance. Overload protected motor is 1/2 hp. Has top ner. Sump depth is 28". Pump height is 34".

PUMP PERFORMANCE

Head, Ft.	5	10	15
GPH	3000	2200	1100

Column	Impeller	No.	NET EACH
Brass	4317K51	.....	\$147.60
Cast Iron	4317K52	.....	\$121.00
Steel-Plated	4317K53	.....	\$75.00
Plastic	4317K53	.....	\$75.00

Vertical Sump Pumps

Heavy duty 1/2 hp pumps are built for reliable service . . . will pass up to 1/4" solids without clogging. The plastic float has a stainless steel rod with adjustable stops to actuate the motor mounted liquid level control switch. Pumps have 2-blade, dynamically balanced bronze impeller threaded on shaft. All have graphited bronze pump bearing, stainless steel shaft, brass column pipe and cast bronze base and volute. Discharge is 1 1/4" ft. Minimum sump diameter is 12". Suitable for liquid temperatures up to 150° F. Drip-proof, vertical-mounted motor has automatic thermal overload protection. The 1/2 hp motor operates on 115 volts, AC, 60 Hz, 1-phase. Furnished with 8-ft. 3-conductor cord and plug.

PUMP PERFORMANCE

Head, Ft.	5	10	15	20
GPH	4000	3200	2200	900

Sump Depth No. NET EACH  
26" / 32" ..... 9957K11 ..... \$281.00  
37" ..... 9957K13 ..... \$142.00  
49" ..... 9957K17 ..... \$68.00

ip Accessories

**SUMP PUMP DRAINER KITS**—The accessories you need to drain sump pumps. Contains: 24-ft. of flexible poly drain tubing with double cuffs every 6 ft.; 1 1/4" male adapter and a stainless steel clamp. Kit with valve includes a flapper check valve with a 1 1/4" iron pipe thread to screw into the sump pump. Description No. NET EACH  
Standard Kit 8268K1 ..... \$22.00  
Kit with Valve 8268K2 ..... \$22.00

**SUMP PUMP CHECK VALVE**—Checks back flow of water and sewer gas which reduces vibration of pump piping, and relieves system. One size fits most installations. Plastic body has triple O-ring seals. Valve accepts 1 1/4" and 1 1/2" steel or plastic pipe. Fits 1 1/4" and 2" copper pipe by using the piece rubber adapters included. Hose clamps are furnished. Not for sewage pump use. No. 8776K11 ..... NET EACH \$5.95

McMASTER-CARR

UL Listed Sump Pumps

Get rid of the water on your construction site! Lifetime lubricated pumps have a nonclogging pumping head and impeller. Select epoxy coated

cast iron or corrosion-resistant bronze housing. Furnished with a cord and 3-prong molded plug. All pumps are UL listed and CSA approved.

1/4 AND 1/3 HP MODELS—

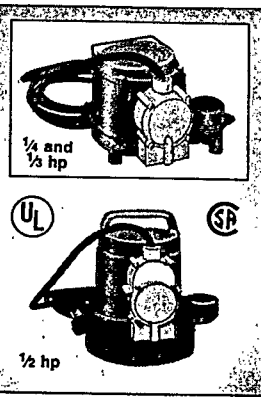
Automatic pumps have pressure switch that turns on in 7" to 10" of water and off in 1" to 3" of water. Pumps have polypropylene base, polycarbonate cover, and 1 1/2" ft discharge. Screened intake prevents clogging. Pumps are powered by a 1/4 or 1/3 hp, 115-volt, 60 Hz, 1-phase thermally overload-protected motor. Minimum sump diameter is 10".

**1/2 HP MODELS**—Automatic pressure switch turns on at 8 1/2" to 12" of water and shuts off at 1 1/2" to 2" of water. Pump has screened intake and a 1 1/2" ft discharge. Powered by a 1/2 hp, 115-volt, 60 Hz, 1-phase ball bearing motor with thermal overload protection. Minimum sump diameter is 12".

PUMP PERFORMANCE

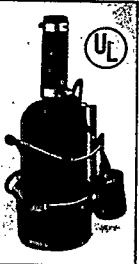
No.	Head, Ft.	5	10	15	20
9989K54	GPH	2750	1750	750	—
9989K56	GPH	3250	2500	1550	450
9989K53	GPH	2750	1750	750	—
9989K55	GPH	3250	2500	1550	450
9989K47	GPH	4200	3800	2700	1825
9989K48	GPH	5000	4000	3000	2000

HP	Housing	Ht. x Wd. Size	Cord Lg.	No.	NET EACH
1/4	MANUAL	Cast Iron 7 1/4" x 7 1/4"	10'	9989K54	\$87.36
1/4	MANUAL	Cast Iron 6" x 8 1/2"	10'	9989K56	\$132.13
1/4	AUTOMATIC	Cast Iron 6" x 8 1/2"	8'	9989K53	\$104.44
1/4	AUTOMATIC	Bronze 6" x 8 1/2"	10'	9989K55	\$172.00
1/2	AUTOMATIC	Cast Iron 10 1/2" x 9 1/2"	10'	9989K47	\$256.60
1/2	AUTOMATIC	Bronze 10 1/2" x 9 1/2"	10'	9989K48	\$455.16



High-Capacity Sump Pump

This UL listed corrosion-resistant pump is lightweight and compact enough for portable use. Resists cleaning chemicals and most other mildly corrosive solutions. A preset float-actuated mercury switch with a piggy-back plug turns pump on at a 10" to 12" level and off at 2 to 3". You can adjust to other levels. Motor is 1/2 hp, 3000 rpm, totally enclosed, oil-cooled, water-cooled, and overload protected. Operates on 120 VAC, 60 Hz, 1-phase and has a steel rotor shaft. Pump has a polypropylene housing and intake screen with an efficient closed impeller and built-in check valve. Includes a 1 1/2" 10-ft. power cord with 3-wire grounded safety plug. Short, flexible discharge adapter has clamps for connecting to 1 1/4" pipe. Pump is 12" high and 6" diameter float requires 7" clearance. Minimum sump dia. is 18".



PUMP PERFORMANCE

Head, Ft.	5	10	15	20
GPH	4620	4200	2520	420

No. 4244K81.....NET EACH \$152.58

Battery-Operated Sump Pump

Emergency backup pump goes into action when power fails. A float level sensing device activates pump when sump water rises a few inches above normal high water setting. Pumping continues until water drops to preset level and then stops. Capacity is 1000 gallons per hour. Control system recharges battery fully and maintains it automatically. Pump is completely submersible. Not for salt water use. Permanent magnet DC motor features solid state electronics. Pump includes a liquid level control, battery box with control pack, a check valve with connections for several discharge lines, mounting brackets, and instruction book. Runs on a 12-volt automotive or marine battery (not included). See page 1282 for battery. Battery must not be more than 12" L x 8" W x 9" H. No. 4307K31.....NET EACH \$237.47



Aqua-Mate Sump Pumps

Use this submersible for temporary and permanent installations. Stainless steel motor casing acts as a float to activate switch. Turn-on level is 12"; turn-off level is 8". Electrical mechanisms are sealed in bronze and stainless steel. Thermally protected motor is 1/2 hp, 115 VAC, 60 Hz, 1-phase. Maximum water temperature is 160° F. Pump is 14 1/2" high and 10 1/8" dia. Vertical discharge is 1 1/2" ft. Pump has bronze impeller, T-carrying handle, and 10-ft. waterproof cord and 3-prong plug.



PUMP PERFORMANCE

Head, Ft.	5	10	15	20
GPH	3600	2500	1650	530

Housing No. NET EACH  
Iron..... 4327K3 ..... \$249.09  
Bronze..... 4327K4 ..... \$273.21

Nonclogging Sump Pumps

These automatic pumps feature a nonclogging impeller and a 1 1/4" ft vertical discharge. They will handle liquids at temperatures up to 150° F. Pumps operate by means of a low-level pressure switch that is activated by direct water pressure. Switch is sealed by two flexible diaphragms for double protection . . . no air column to become water-logged. Turn-on level is 12"; turn-off level is 6".



The 1/2 hp, 1550 rpm motor is sealed in oil with built-in thermal overload protection. Operates on 115 volts, AC, 60 Hz, 1-phase. Furnished with 8-ft. power cord, and 3-wire grounded plug. Pumps have built-in double insulated handle for easy portability. Minimum sump diameter is 10". Choose high-impact, corrosion-resistant plastic or rugged cast iron construction.

PUMP PERFORMANCE

Head, Ft.	5	10	15	18
GPH	3060	2440	1440	0

Housing No. NET EACH  
Cast Iron..... 4305K41 ..... \$130.27  
Plastic..... 4305K42 ..... \$98.36

Automatic Sump Pumps

Floats adjust along discharge pipe for varying turn-on and turn-off levels. Suitable for temporary or permanent installations, pumps have two adjustable mercury float switches, piggy-back plug with 15-ft. power cord, and 1 1/4" ft discharge. Thermal overload protected motor runs on 115 VAC, 60 Hz, 1 ph. **1/2 HP MODEL**—Choose cast iron or bronze housing. Both have bronze impeller and handle floats up to 150° F. Pump height is 11 1/8". Minimum sump diameter is 10 1/2".

PUMP PERFORMANCE

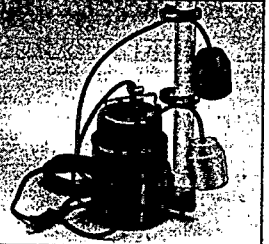
Head, Ft.	5	10	15	20
GPH	4140	3360	2280	960

No. NET EACH  
Cast Iron..... 4290K3 ..... \$301.75  
Cast Iron..... 4290K4 ..... \$494.92

PUMP PERFORMANCE

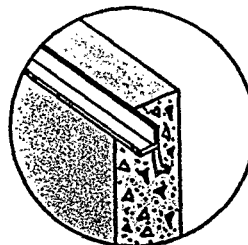
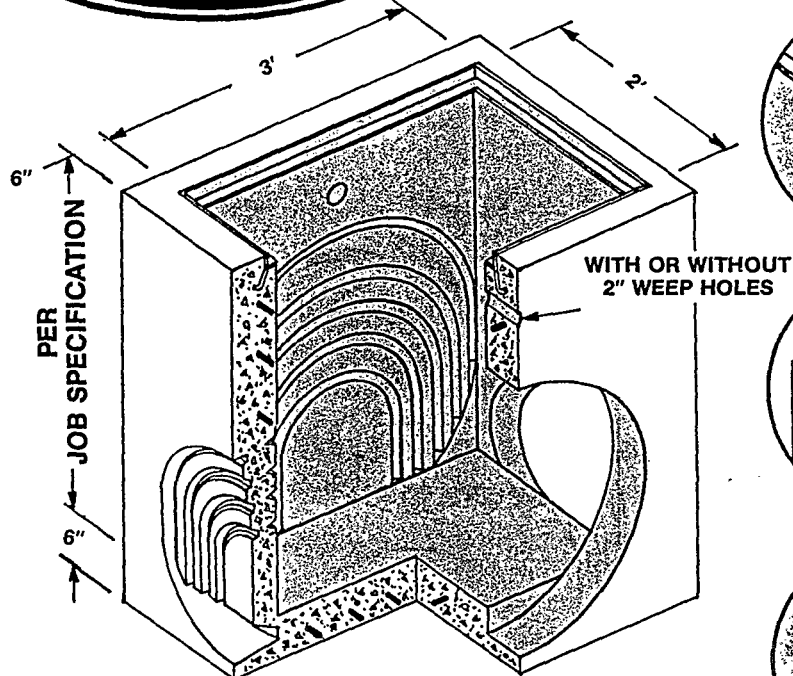
Head, Ft.	5	10	15
GPH	2700	1920	1000

No. NET EACH  
4329K12..... \$213.11

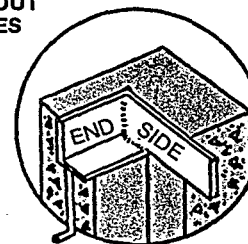


# U32 Catch Basin 2' x 3' with 6" Walls

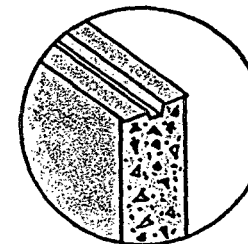
**Christy**



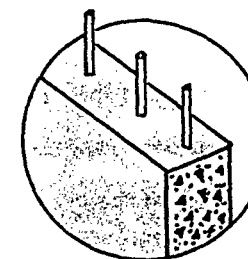
Cast-In Galvanized Frame  
for Grates  
1-1/2" x 1-1/2" Angle Iron  
With Anchor Bolts



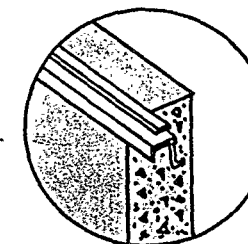
Cast-In Galvanized Frame  
for State Type Grates  
4" x 3" x 1/4" Angle Iron Ends  
With Anchor Bolts  
3-1/2" x 1/4" Side Bars



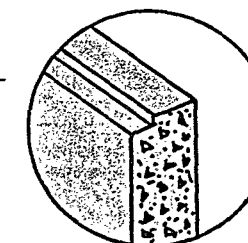
Grooved to Receive Tongue of  
Grade Rings, Curb Inlets, etc.



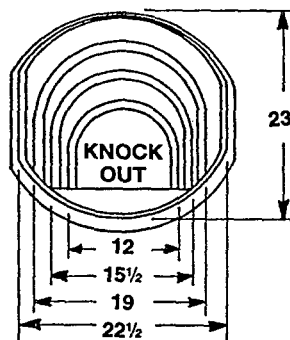
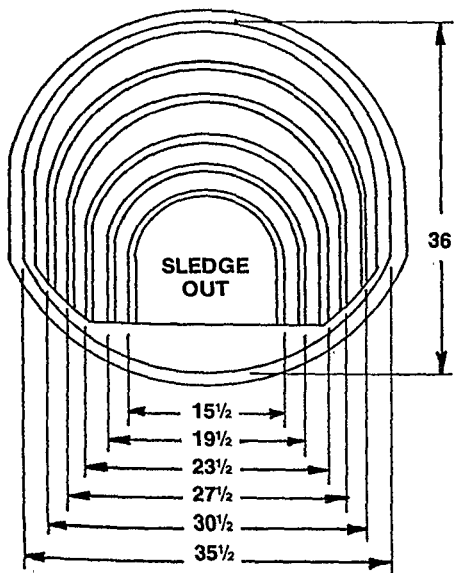
6" Exposed Rebar to Allow Job  
Site Pouring of Special Curb  
Shapes at Grade Level, etc.



Cast-In Galvanized Frame  
for 1/4" Steel Lids  
With Bolt Down Provisions



Recessed for 1/4" Steel Lid  
With Bolt Down Provisions



- Knock-Outs Available in Grade Ring and Catch Basins.
- Openings, Locations and Sizes to Job Specifications.
- With or Without Bottom.
- Progressive Webbed Knock-Outs Provide Maximum Flexibility Permitting Pipe of Any Size to be Neatly and Quickly Grouted in at Job Site.
- Standard Tongue and Groove Grade Rings are Available in 6" Increments up to 4' High.
- All Reinforcing Steel Meets ASTM Specifications as Required.

**PRECAST  
ADVANTAGE**



QUALITY PRECAST CONCRETE PRODUCTS



**ZORB  
TANKS**

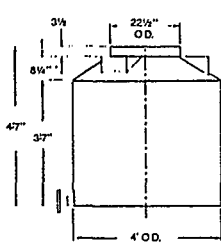
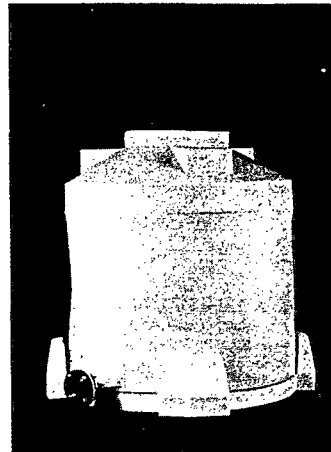
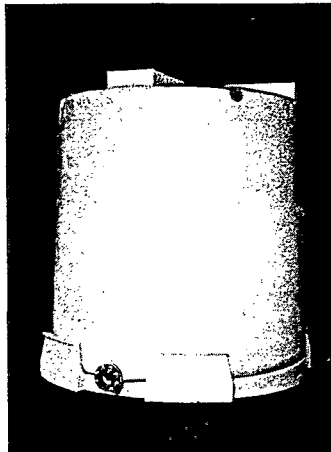
# IMFO TANKS

(INTEGRALLY MOLDED FLANGED OUTLET)

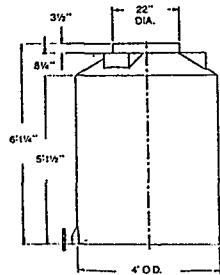
## UPRIGHT CLOSED TOP STORAGE TANKS WITH MOLDED IN FLANGES

**ZORB  
TANKS**

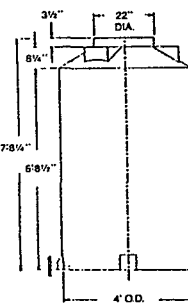
IMFO GUARANTEES COMPLETE DRAINAGE - SIMPLIFIES CLEAN OUT - ELIMINATES CONTAMINATION  
OUR NUMBER ONE CUSTOMER COMPLAINT HAS BEEN ELIMINATED BY INNOVATIVE DESIGNING  
SIZES WITH 4' DIAMETER - 5' DIAMETER - 8' DIAMETER - 10' DIAMETER - 12' DIAMETER  
14' DIAMETER - 12' DIAMETER SLOPE BOTTOM TANKS



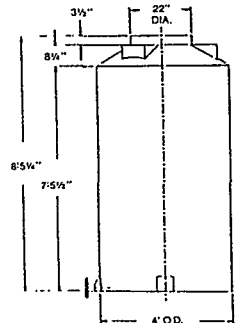
Stock #750-U 375 Gallon



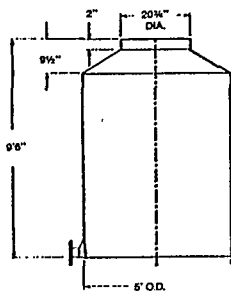
Stock #751-U 500 Gallon



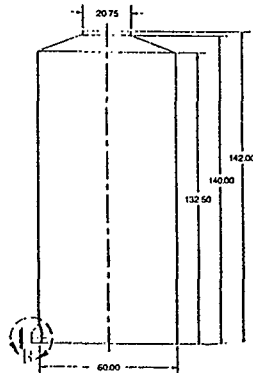
Stock #752-U 630 Gallon



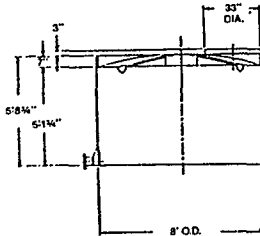
Stock #753-U 710 Gallon



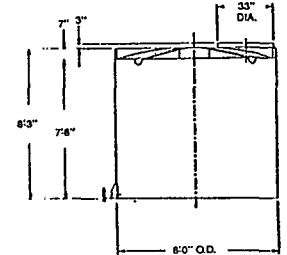
Stock #711-U 1190 Gallon



Stock #SP-722-U 1520 Gallon



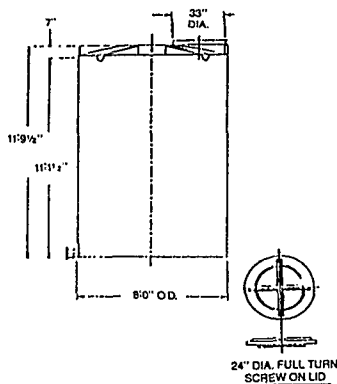
Stock #SP-788-U 2000 Gallon



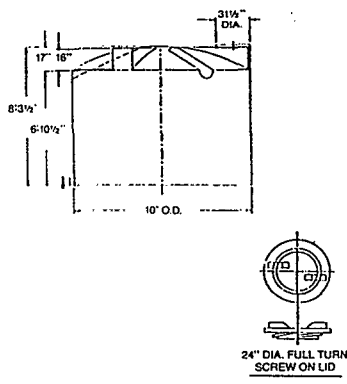
Stock #SP-789-U 3000 Gallon

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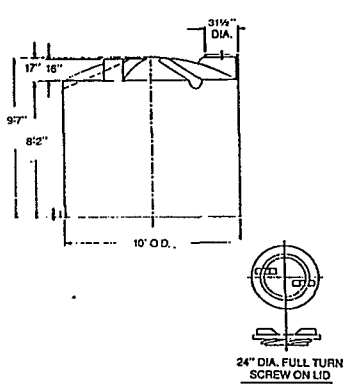
PCP 11/91 IMFO-B11



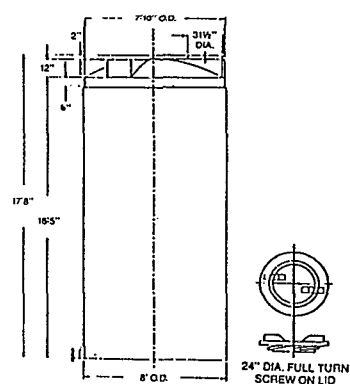
Stock #SP-734-U 4000 Gallon



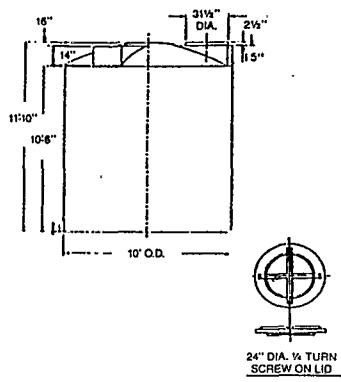
Stock #SP-730-U 4200 Gallon



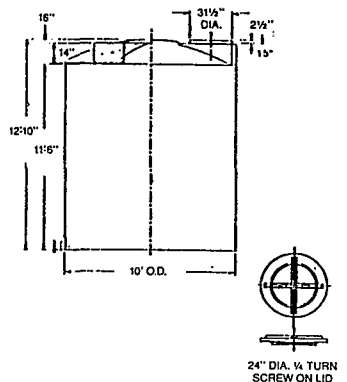
Stock #SP-799-U 5000 Gallon



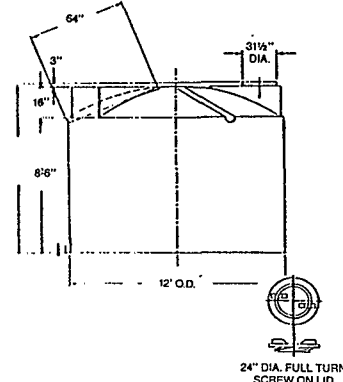
Stock #SP-735-U 6200 Gallon



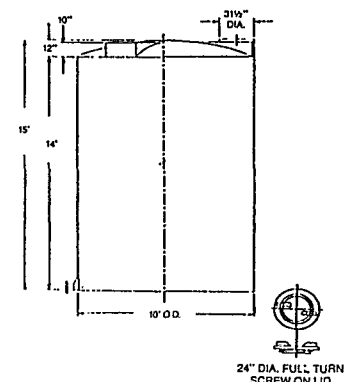
Stock #SP-731-U 6500 Gallon



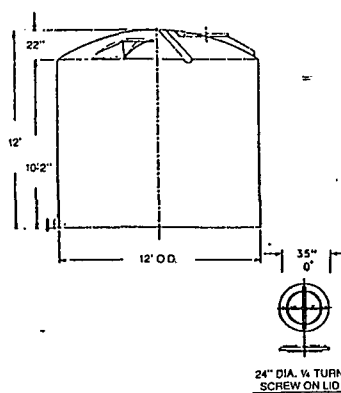
Stock #SP-650-U 6950 Gallon



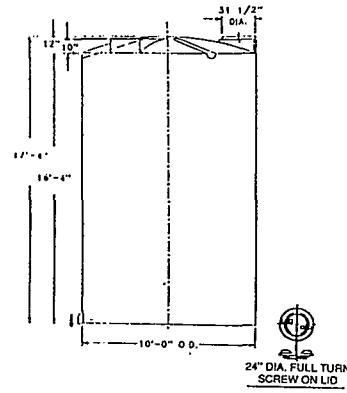
Stock #SP-736-U 7000 Gallon



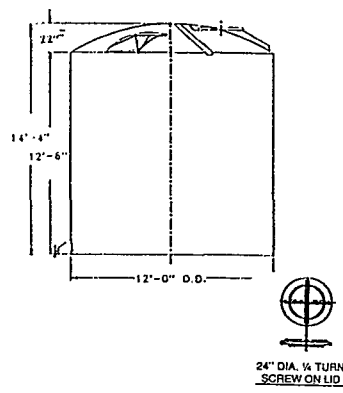
Stock #SP-732-U 8200 Gallon



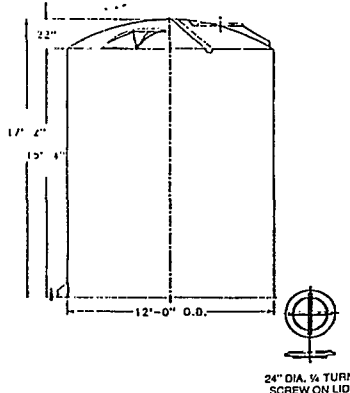
Stock #SP-737-U 9200 Gallon



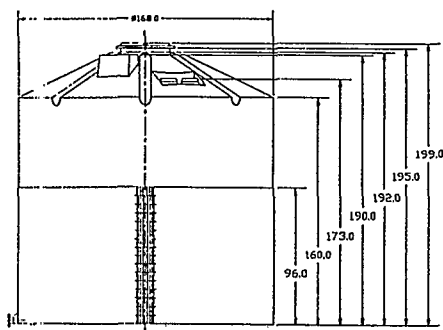
Stock #SP-733-U 9500 Gallon



Stock #SP-738-U 11,100 Gallon



Stock #SP-739-U 13,000 Gallon



Stock #SP-653-U 16400 Gallon

MOLDED IN FITTINGS ARE THE PERFECT METHOD.  
THERE IS NO SUBSTITUTE FOR ELIMINATING  
CONTAMINATION BY COMPLETE DRAINAGE.

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**ORDER IT!**

It's Easy With Step-by-Step Check Lists. See Page A-24.

## Large Size – Alloys

### LS-800 Series – The General Purpose Workhorse for Water and Oils

- ▶ Stainless Steel or Brass Mountings
- ▶ 1 to 6 Actuation Levels
- ▶ Lengths to over 11 feet
- ▶ U.L. Recognized, CSA Listed

Rugged construction and multiple options provide the LS-800 Series with exceptional versatility. Longer and more substantial than other metallic models, the LS-800 is capable of supporting larger, more buoyant floats, and is physically stronger for better reliability in contaminated or turbulent media. This series offers SPST or SPDT switches, and a choice of mountings, floats and materials that can be configured for a wide range of applications in water, oils, chemicals and corrosive liquids.

#### Temperature Sensing

To save space and simplify wiring, GEMS can incorporate a temperature sensor in the end of the float stem on any model type LS-800. Two sensor types are available: Transducers for continuous output, and Thermostats for switch actuation. See Page A-41 for details.

#### Adjustable Mounting

Allows stem to travel up and down for fine tuning your actuation points. See next page.

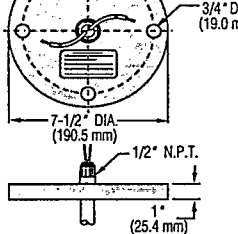
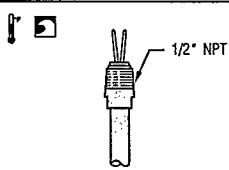
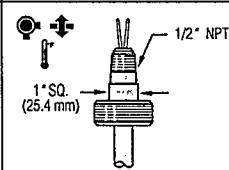
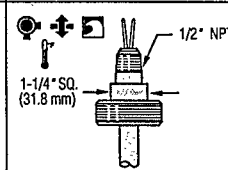
LS-800 switches are U.L. Approved for Class I, Division 2, Groups A, B, C, D hazardous locations

They are also available with FM-approved, explosion-proof junction box for Class I, Division 1, Group D hazardous locations. Units must be assembled completely at GEMS.

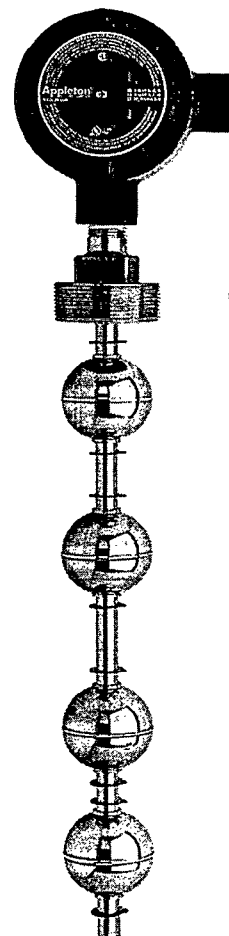
## 1. Mounting Types

Each mounting type can be configured with stem lengths ( $L_o$ ) and float material indicated in the table below. Mountings are also continued on following page.

Note: Sanitary flange mountings are also available, but not shown. Please contact factory.

	Type 1 1/2" NPT	Type 2 1-1/4" NPT	Type 3 2" NPT	
				
Stem and Mounting Material	Brass or 316 Stainless Steel			Flange: Carbon Steel or 316 S.S. Stem: 316 S.S.
Max Length (Lo)	36" (91.4 cm)	60" (152.4 cm)	140" (355.6 cm)	
Mounting Position	Vertical ± 30° Inclination			
Float Stops*	Brass Units: Beryllium Copper Grip Rings; Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings			

\* Units greater than 72" overall length are supplied with collars with setscrews (made of same material as stem and mounting) in place of float-stop rings. Collars are optional on units less than 72" overall length. Units requiring 316 SS float stops must be special ordered with 316 SS collars instead of grip rings. In some instances, concentration of chlorine and other corrosive compounds in the media require the use of collar type float stops. Consult factory for details.



Now  
UL Approved  
Explosion-Proof

UL CE



NC

1/Blk/Red

1/Blk/Yel

1/Blk/Blu

1/Blk/Brn

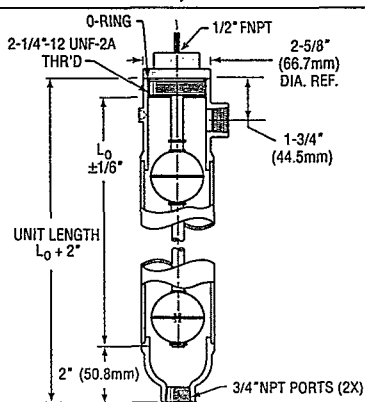
1/Blk/Orn

## LS-800 Series - Continued

### 1. Mounting Types - continued

Type 5 External Mounting units are ideal for tanks with limited access to tops or bottoms.

**Type 5  
External Mount, Multi-Station**



Housing Material	Brass	316 Stainless Steel
Stem and Mounting	Brass	316 Stainless Steel
Port Sizes	3/4" NPT	
Max. Length (L <sub>0</sub> )	120" (305 cm)	
Float Stops*	Beryllium Copper	S.S. ARMCO PH-15-7 MO

\* Units greater than 72" overall length are supplied with collars with setscrews (made of same material as stem and mounting) in place of float-stop rings. Collars are optional on units less than 72" overall length. Units requiring 316 SS float stops must be special ordered with 316 SS collars instead of grip rings. In some instances, concentration of chlorine and other corrosive compounds in the media require the use of collar type float stops. Consult factory for details.

### 2. Float Types

A single float type is selected for use at all actuation points. Be sure, by reviewing the table below, that the desired float is compatible with the Mounting Type selected in Step 1.

Float Material	Buna N		316 Stainless Steel	
Compatible Mounting Types	2	1, 3, 4, 5	1, 3, 4, 5 (Units ≤ 72")	3, 4, 5 (Units > 72")
Float Dimensions				
Part Number	26032	10558	14569	15666
Operating Temperature	Water: to 180°F (82.2°C) Oil: -40°F to +230°F (-40°C to +110°C)		-40°F to +300°F (-40°C to +148.9°C)	
Min. Media Specific Gravity	.75	.55	.75	.75

**Pressure Ratings Chart**  
(PSI, Max.)

		Float Part Number			
		26032	10558	14569	15666
Mounting Type	1, 2, 3	150	750	300	
	4	150			
	5	100 @ +70°F (21.1°C)			
	Brass	150	750	300	
	316 S.S.	150	750	300	

Review the Compatible Mounting Type row in the "Float Types" table above this matrix for produceable mounting/float combinations. Not all combinations implied by this Pressure Rating Chart are possible or recommended.

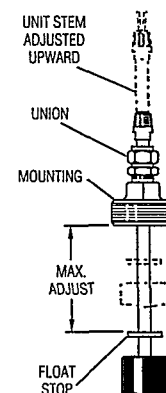
### LS-800-A Series

#### Adjustable Mounting

Available for LS-800 Series Mounting Types 2, 3 and 4.

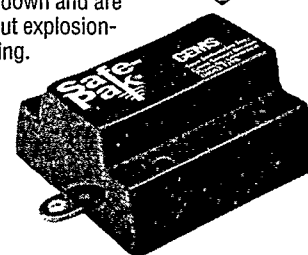
Special cinch-nut on mounting allows stem to travel up or down for fine tuning the actuation points. The extent of adjustment depends on unit length and distance from mounting to highest float stop. When ordering, specify "LS-800-A" as Series Type.

Note: Maximum overall length is limited to 72" with this option.



### Intrinsically-Safe Relays

Using Gems SAFE-PAK® relays and barriers, these switches provide automatic refills/pumpdown and are intrinsically-safe without explosion-proof housing and piping.



See Section N

### 3. Electrical Specifications

Switch (N.O. or N.C.):

SPST: 20 VA or 100 VA

SPDT: 20 VA

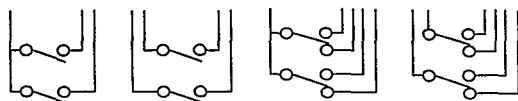
Lead Wires: #18 AWG, 24"L., Polymeric (except as noted in Wiring Color Code chart at right).

Approvals: LS-800 Series switches are U.L. Recognized - File No. E45168; CSA Listed - File No. 30200

#### Typical Wiring Diagrams

For clarity, only two actuation levels are shown in each group diagram.

GROUP I SPST      GROUP II SPST      GROUP III SPDT      GROUP IV SPDT



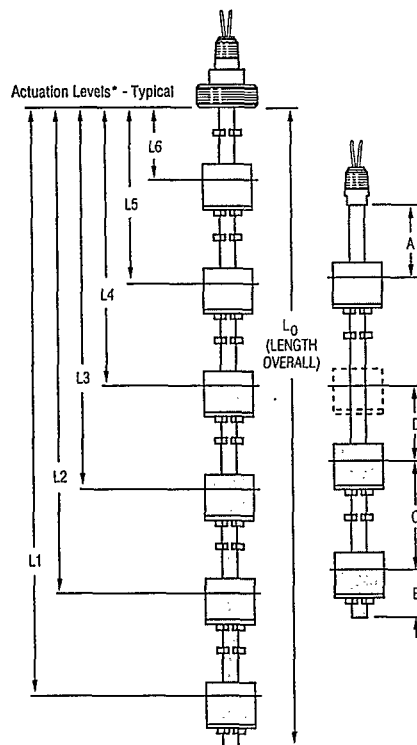
### Wiring Color Code

Tinted area designates U.L. Recognized wiring configurations.

SPST Switches				SPDT Switches 20 VA				
Wiring	Group I	Group II		Group III		Group IV		
Com. Wire	Black	None		Black		None		
	NO/NC	SW. Com.	NO/NC	NO	NC	SW. Com.	NO	NC
L1	Red	Red	Red	Red	Wh/Red	Red	Wh/Red	Wh/Blk/Red
L2	Yellow	Yellow	Yellow	Yellow	Wh/Yel	Yellow	Wh/Yel	Wh/Blk/Yel
L3	Blue	Blue	Blue	Blue	Wh/Blue	Blue	Wh/Blu	Wh/Blk/Blu
L4	Brown	Brown	Brown	Brown	Wh/Brn	Brown	Wh/Brn	Wh/Blk/Brn
L5	Orange	Orange	Orange	Orange	Wh/Orn	Orange	Wh/Orn	Wh/Blk/Orn
L6	Gray	Gray	Gray	Gray	Wh/Gra	Gray	Wh/Gra	Wh/Blk/Gra

Notes: 1. Non-U.L. Recognized units (white areas) use #22 AWG, 24"L., Teflon® Lead wires.  
2. Units with 50 VA and 100 VA switches are not U.L. Recognized or CSA Listed.  
3. See "Electrical Data" on Page A-4 for more information.

### 4. Actuation Level Dimensions



\* Actuation level distances and  $L_0$  (overall unit length) are measured from inner surfaces of mounting plug or flange.

\*\* Length Overall  $L_0 = L_1 + \text{Dimension B}$ . See Mounting Types for Maximum Length values.

Switch actuation levels are determined following the guidelines below.

All units 72" or less  $L_0$  with Stainless Steel or Buna N floats. Also Type 5 units over 72"  $L_0$  with Buna N floats:

A = 1-1/2" (38.1 mm) minimum distance to highest level (2", Type 5 only).

B = 2" (50.8 mm) minimum distance from end of unit to lowest level.

C = 3" (76.2 mm) minimum distance between levels.

D = 1/4" (6.3 mm) minimum distance between actuation levels (Note: One float for two levels can be used only when low level is N.C. dry and high level is N.O. dry).

Types 1, 3, 4, and 5 units with stainless steel float, Part Number 15666:

A = 1-5/8" (41.3 mm) minimum distance to highest level (2", Type 5 only).

B = 2-1/2" (63.5 mm) minimum distance from end of unit to lowest level.

C = 4" (101.6 mm) minimum distance between level.

D = 1/4" (6.3 mm) minimum distance between actuation levels (Note: One float for two levels can be used only when low level is N.C. dry and high level is N.O. dry).

Notes:

1. A, B and C dimensions based on a liquid specific gravity of 1.0.

2. One float for two levels can be used only when 20VA switch is used.

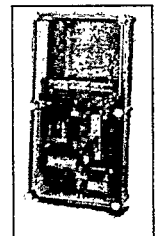
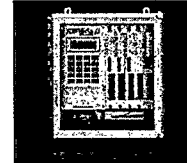
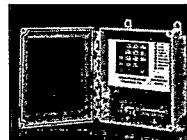
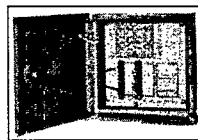
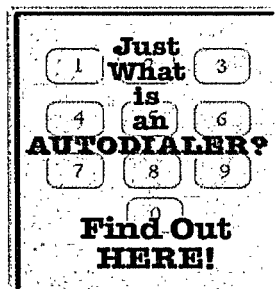
3. Actuation levels are calibrated on descending fluid level, with water as the calibrating fluid, unless otherwise specified.

4. Tolerance on actuation levels is  $\pm 1/8"$  (3.2 mm).

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# **Sensaphone®**

## **Family of Remote Monitor Systems**



<b>SENSAPHONE MODELS:</b>	<u>Sensaphone 1104 &amp; 1108</u>	<u>Sensaphone 4100</u>	<u>Sensaphone Express</u>	<u>Sensaphone Express II</u>	<u>Sensaphone ISACC</u>
<b>ALARM INPUTS</b>	4 / 8 dry Contact or Temperature	4 Dry Contact 1 Temperature	4 Dry Contact 1 Temperature	8 Universal Expandable to 40	16 Universal
<b>SOUND MONITORING</b>	Yes	Yes	No	Yes	No
<b>POWER MONITORING</b>	Yes	Yes	Yes	Yes	Yes
<b>OUTPUTS</b>	No	1 Digital	1 Relay	1 Relay (expandable)	8 Digital, 4 Analog, 1 Relay
<b>I/O EXPANSION</b>	No	No	No	Yes	No
<b>TEMP. SENSING RANGE (°F)</b>	-20° to 150°	-20° to 150°	-60° to 175°	-85° to 300°	-60° to 175°
<b>VOICE ALARM MESSAGES</b>	Yes	Yes	Yes	Yes	Yes
<b>PROGRAMMABLE VOICE</b>	No	No	Yes	Yes	No
<b>BUILT-IN MODEM FAX REPORTING</b>	No	No	No	No	Yes
<b>E-MAIL REPORTING</b>	No	No	No	No	No
<b>ALPHANUMERIC PAGER</b>	No	No	No	No	No

NUMERIC PAGER	Yes	Yes	Yes	Yes	Yes
DIALOUT PHONE NUMBERS	4 or 8	4	8	48	8
MAX PHONE DIGITS	32	32	32	40	32
PROGRAMMING:					
LOCAL KEYPAD	Yes	Yes	Yes	Yes	No
KEYPAD LOCK	Yes	Yes	Yes	Yes	N/A
LOCAL DATA	No	No	No	No	Yes
REMOTE TOUCH-TONE	No	No	No	Yes	No
REMOTE DATA	No	No	No	No	Yes
DATA LOGGING	No	No	No	Yes (via printer)	Yes
BATTERY BACKUP TIME	24 hours	22 hours	12 hours	6-12 hours	10-15 hours
NONVOLATILE MEMORY	Yes	Yes	Yes	Yes	Yes
ENCLOSURE	Plastic	NEMA-1	NEMA-4X	NEMA-4X	NEMA-4
	Sensaphone 1104/1108	Sensaphone 4100	Sensaphone Express	Sensaphone ExpressII	Sensaphone ISACC

**If you use Chart Recorders, Network Servers, and other source  
ASCII Text information, be sure you consider  
the Data Remote!**

**And take a look at the many Sensaphone Accessories and Sensors that Phonetic  
your Sensaphone to the utmost in every application.**



**COMING SOON!**

**The revolutionary new SCZ  
3000.**

**The SUPER device for contr  
monitoring**

**at the Mild-Mannered**

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to learn more.**

### OVERVIEW OF RACO AUTO-DIALING ALARM/MONITORING/CONTROL SYSTEMS.

	0	1	2	4	8	16	24	32	64	96	256
<b>Digital internal inputs for sensing alarm contact closures</b>											
Verbatim											
Verbatim Gateway											
Verbatim Gateway II											
Chatterbox											
Guard-it											
<b>Analog internal inputs for sensing values (temperature, pressure, etc.)</b>											
Verbatim											
Verbatim Gateway											
Verbatim Gateway II											
Chatterbox											
Guard-it											
<b>Outputs (Control points)</b>											
Verbatim											
Verbatim Gateway											
Verbatim Gateway II											
Chatterbox											
Guard-it											
Responder											
<b>Virtual channels</b>											
Verbatim											
Verbatim Gateway											
Verbatim Gateway II											

Standard

Optional

Analog/digital configurable

Select the photos below for more information.

## Verbatim



The RACO Verbatim is the most technologically advanced Alarm Autodialing and Remote Monitoring System available, offering operational and programming features unavailable in any other system. Speech messages digitally recorded by user. Large selection of modular options. Remotely programmable via any touch-tone phone over a standard telephone line. Lets the operator turn equipment on or off from any phone- anywhere. Can function as an RTU. Up to 32 contact channels and up to 16 analog channels.

## Secure Front Panel Verbatim

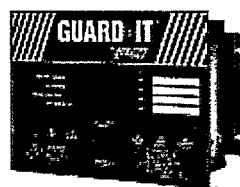


2.3 MG PDF file

The Verbatim System is available in a Secure Front Panel (SFP) configuration, where the unit is furnished without the front panel keypad and some of the front panel indicators that are used for programming at the panel. With this unit, system programming can only be done over the phone. The SFP system provides security for unsupervised or remotely located units and the initial purchase price is only \$1,400.00.

## Guard-It





1.1 MG PDF file

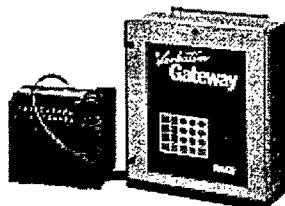
Get a reliable RACO Alarm Autodialing and Remote Monitoring System for only \$795. Guard-It can monitor up to 4 analog or digital input channels and call 8 preprogrammed phone numbers over a standard telephone line to provide alarm information in the form of a digitally recorded voice message. Alarm calls can be made to any standard phone, pagers, cellular phones, and voice mail. Users can call in for a status report from any remote touch-tone phone. The system is field programmable at the control panel.

## Chatterbox



The Chatterbox, RACO's original Automatic Dialing and Remote Monitoring System. Since 1984, thousands in use in water and wastewater plants across the nation. Calls up to 8 preprogrammed phone numbers. Alarms reported via synthesized voice messages programmable by user. System is modularly expandable to 32 contact channels. Options allow monitoring of a single analog input, with user-programmable high and low setpoints, and operation of external output relays from any remote touch-tone phone.

## Verbatim Gateway



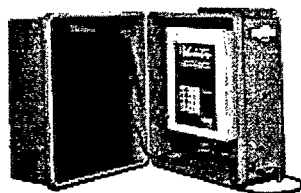
The RACO Verbatim Gateway doubles as an alarm autodialer and PLC interface. As an autodialer, it incorporates all of the advanced features of a Verbatim System. As a PLC interface, the Verbatim Gateway serves as a remote MMI for an Allen Bradley or Modicon PLC network, providing read/write access to PLC data tables and I/O points using any standard touch-tone phone.

## Verbatim Gateway II

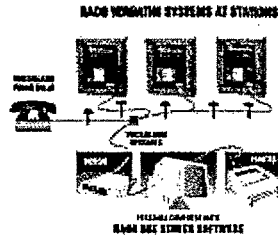


This new Automatic Dialing Remote Monitoring System and PLC Interface offers a cost-effective way to add alarm autodialing to a PLC-based MMI/SCADA system. The Verbatim Gateway II provides up to 256 external PLC inputs for alarm reporting, status checking, and data logging functions. Four physical digital inputs are also provided for direct alarm reporting. The system features ease of programming using RACO Alarmware System Configuration Software, together with enhanced data logging, and a PIN-based security system. Communications with a PLC uses only a serial cable connection, enabling users to avoid the high cost of complex wiring, relays, additional PLC outputs, and reprogramming. The Gateway, in turn, is connected to the telephone network via a standard plug-in phone jack.

## Cellarm

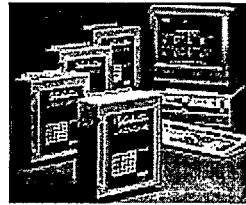


RACO Cellular terminal provides temporary or permanent cellular telephone service when conventional telephone lines are not available. Cellular phone transceiver can be optionally furnished with a RACO Autodialer System to provide alarm monitoring, reporting, and system status checking. Packaged in rugged, weather-resistant housing that is easy to transport and set up.



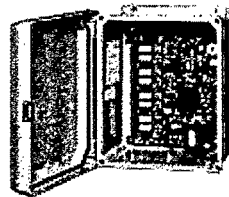
## RACO Connections DDE Server Software

RACO Connections DDE Server Software lets RACO Verbatim RTU's provide alarm monitoring and control functions in a Microsoft Windows based DDE-compliant MMI/SCADA system over standard dial-up telephone lines. Because Verbatim Systems do not need to be pulled, all alarms are reported instantaneously and SCADA system message traffic is minimized.



## RACO SCADA System

RACO SCADA System software lets you combine a Verbatim System with a Central Station Computer to interface up to 200 Verbatim Remote Terminal Units (RTUs). Simple, cost-effective system permits the use of conventional dial-up phone lines to ensure continuous monitoring, reporting, data logging, and alarm autodialing.



## Responder

RACO Responder can be called from any touch-tone phone to operate remotely located pumps, valves, motors, switches, and other devices. DTMF tones generated by calling phone cause relay activation at Responder RTU, which in turn operates the remote device. Two relay outputs standard, eight optional. Packaged in a rugged, weather-resistant housing.

## Software Demos

- **SCADA** - Software Demo, size 830 k
- **DDE Server** - Software Demo, size 830 k
- **ALARMWARE** - Software Demo, size 1MG

These software demos are designed to be run on PC compatible computers.

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## **APPENDIX A**

### **SUPPLEMENTAL FIELD SAMPLING AND ANALYSIS PLAN**

#### **A.1 INTRODUCTION**

1. This Supplemental Field Sampling and Analysis Plan (FSAP) has been prepared to guide the Reservoir Liquids Treatability Study (TM No. 13) field activities for the Waste Disposal, Inc. (WDI) Superfund site in Santa Fe Springs, California.
2. A Supplemental Quality Assurance Project Plan (QAPP) has been prepared as a separate Addendum to TM No. 13. Standard Operations Procedures for various elements of the work, which are referenced in this Supplemental FSAP and QAPP, are included in the Addendum.

#### **A.2 SAMPLING OBJECTIVES**

1. Since this Supplemental FSAP is an Addendum to TM No. 13, the specific project objectives are presented in TM No. 13, Rev. 1.0, Section 7.0.
2. Table A.1 summarizes the Data Quality Objectives (DQOs) for the reservoir liquid samples and analyses.

#### **A.3 RATIONALE FOR SAMPLING**

##### **A.3.1 APPROACH**

1. As outlined in TM No. 13, the primary purpose of the samples and analysis activities is to collect additional data on the reservoir liquid chemical characteristics to facilitate disposal and to provide data to make operating adjustments to the influent from the wells or the treatment plant.
2. The sampling efforts to be used in support of these field activities will incorporate the following strategies:
  - Follow appropriate protocols in the Health and Safety Plan to minimize exposure to potentially contaminated media.
  - Follow labeling protocols for each sample collected.
  - Place samples in laboratory-certified clean receptacles.
  - Adhere to field sample collection and handling procedures as described herein, and supported by Quality Control (QC) measures provided in the Supplemental QAPP.

- Follow sample packaging and Chain-of-Custody protocols to assure that samples which may be analyzed are delivered to the laboratory and stored appropriately. Detailed protocols are provided in the Supplemental QAPP.

#### A.3.2 RESERVOIR INVESTIGATION

1. A liquid sample will be collected from the existing reservoir wells and newly installed wells. The wells will be purged and sampled pursuant to procedures described in SOP E. The analyses to be performed are provided in Table A.3.
2. Liquid samples will be collected from the effluent treatment tanks as per the procedure described in SOP O.

### A.4 ANALYSIS REQUIREMENTS

#### A.4.1 MONITORING/TESTING FREQUENCIES

1. During sampling, if immiscible layers are observed in the wells or tanks, these layers will be collected separately and analyzed.

#### A.4.2 ANALYTICAL PROCEDURES

1. Procedures for analyses of reservoir liquid are presented in the Supplemental QAPP.

#### A.4.3 ANALYTICAL PARAMETERS, SAMPLE CONTAINERS, METHODS OF PRESERVATION, AND HOLDING TIMES

1. Information on analytical parameters, sample containers, methods of preservation, and holding times are presented in Table B.1 of the Supplemental QAPP.

## A.5 METHODS AND PROCEDURES

### A.5.1 SAMPLE COLLECTION

#### A.5.1.1 Reservoir Liquid Sample Collection

##### A.5.1.1.1 Liquid Level Monitoring

1. Prior to collecting samples, liquid levels will be measured as detailed in SOP F. The following general procedures will be used:
  - Water (liquid) level measurements will be made from a designated measuring point at the top of the well casing to an accuracy of  $\pm 0.01$  feet. The level will be measured a minimum of two times, or until close agreement ( $\pm 0.01$  feet) is obtained between consecutive measurements, before recording the depth to water.
  - Level measurements will be recorded on the standard form shown in SOP F.
  - Water levels will be obtained prior to purging and sampling.
  - To prevent cross-contamination between wells, the sounding device will be decontaminated between each well.
  - Whenever possible, the level measurements during a sample round will be performed by the same person.
  - The expected seasonal maximum and minimum water levels are not known at this time. This will be determined using the ground water monitoring program.

##### A.5.1.1.2 Reservoir Liquid Sample Collection

1. Liquid sampling procedures are detailed in SOPs E, F and O. The list below identifies the types of equipment that may be used for a range of sampling situations at the site. From this list, equipment will be selected based upon the depth to ground water (liquid), purge volumes, analytical parameters and well construction. In general, the wells will be sampled in order of expected contamination (i.e., from last impacted to most impacted). The types of sampling equipment are as follows:
  - Purging/Sample Collection
    - Submersible Pump
    - Bailers (disposable)
    - GA to \_\_\_ samples model ←
  - Tank Sampler
  - Disposable Caliwasa Samplers
  - Field Measurements
    - Electric Well Sounder

2. Additional equipment to support sample collection and provide baseline worker safety will be required to some extent for each sampling task. The additional materials are separated into the following two primary groups: general equipment which is reusable for several samplings; and materials which are used one time and then disposed of:
  - General
    - Health and safety equipment (respirators, goggles, protective coveralls).
    - Field data sheets and/or logbook.
    - Sample bailers.
    - Sample containers (provided by selected laboratory, or equivalent, with appropriate preservatives as outlined in the Revised QAPP).
    - Buckets and intermediate containers.
    - Coolers and ice.
  - Expendable Materials
    - Bailer cord.
    - Gloves (nitrile).
    - Chemical-free paper towels.
    - Plastic sheets.
3. Each reservoir well will initially be purged prior to sample collection. If practical, three well volumes of liquid will be withdrawn prior to sample collection. However, if the well can be purged dry, only one volume will be withdrawn. The volume of water (liquid) present in each well will be computed based on the length of the water column, the well casing diameter and the diameter of the borehole, as per the QAPP for ground water sampling. After the initial round of sampling is completed, purging will not be required in the subsequent sampling, since the well will be actively pumped as part of the treatability program.
4. The following additional parameters will be followed for handling samples removed from the wells:
  - The mixing of air will be minimized during removal of a sample from its container by tilting the bottle to allow the water to run down the inside wall of the bottle. A gentle stream of water should exit the valve. High velocities will cause oxygen uptake and loss of volatiles.
  - Sample bottles will be kept at 0 to 4 degrees Celsius ( $^{\circ}$  C) in an iced cooler/chest so they remain cool prior to sampling. Filled sample bottles will be packaged and placed directly into an iced cooler/chest.
  - Plastic bottles without preservatives will be completely filled to minimize air contact; however, 1-liter, 1/2-gallon, 1-gallon, or 5-gallon glass bottles, if used, would be filled only 90 percent full to allow room for expansion and contraction of liquid.

- Precautions will be taken to limit the contamination of samples from outside sources. Hands will be washed with distilled water, and rubber surgical gloves will be worn, especially if petroleum products are encountered. The order of sampling will be from the least contaminated well to the most contaminated well.
  - Well number or sample location, date, time of sampling, analysis to be performed, sampler's initials, preservative and sample identification numbers will be noted directly on the sample label with indelible ink.
5. When sampling for VOCs, the 40-milliliter (mL) sample vials will be completely filled and will have no headspace. To avoid aeration, the sampler will be held at an angle so that the stream of water flows down the side. The vial will be filled until it overflows to eliminate any air bubbles, and the Teflon-lined cap will be replaced. Two vials will be collected for each sample.
  6. The vial will be turned upside-down and tapped to check for air bubbles. If air bubbles are present, the vial disposed of and a new vial filled. This procedure will be repeated until no air bubbles are observed.

#### A.5.1.1.3 Quality Control Ground Water Samples

1. Liquid sampling requires the use of trip blanks, field blanks and duplicates for QC purposes. These QC procedures are discussed in Section B.10 of the Supplemental QAPP.
2. Field ground water QC samples will be identified in the same manner as field samples. As indicated in the Revised FSAP, Rev. 4.0.

### A.5.2 DECONTAMINATION

#### A.5.2.1 Equipment Decontamination

1. Nondisposable sampling equipment (e.g., stainless steel bailer) will be decontaminated at a central location where it was used. Decontamination fluids will be collected for proper disposal.
2. Decontamination procedures are provided in SOP G.

#### A.5.3 DISPOSAL OF SOIL CUTTINGS, PURGED GROUND WATER, AND ASSOCIATED SAMPLING WASTES

1. Contaminated or potentially contaminated field materials used or generated as a result of field activities proposed in this plan will be managed in accordance with Appendix D of the RD Workplan.

#### A.5.4 SAMPLE CONTAINERS

1. Table B.1 of this Supplemental QAPP lists the sample container requirements appropriate for different sample matrices and analytical procedures.
2. Each sample container will be labeled with the name of the person taking the sample, sample date and time, sample identification code, sample type, preservation method and analyses to be performed. The label will also indicate if the sample is to be held in appropriate storage by the laboratory until the geologist/engineer determines if analyses are to be performed based on initial analytical results for representative samples.

#### A.5.5 SAMPLE PRESERVATION

1. Appropriate sample containers and preservatives for soil samples will be supplied by the analytical laboratory or equivalent reputable source. A listing of these containers, preservation methods, and associated holding times are provided in Table B.1 of the Supplemental QAPP.

#### A.5.6 SAMPLE SHIPMENT

1. Detailed sample transportation procedures are described in SOP H.

#### A.5.7 SAMPLE DOCUMENTATION

1. SOP J provides a complete description of the sample identification procedures.

##### A.5.7.1 Chain-of-Custody

1. Chain-of-Custody procedures are presented in SOP I. Copies of the Chain-of-Custody records completed by the laboratory will be returned with the results of laboratory analyses.



#### A.5.7.2 Field Notebook

1. In the field, the Field Engineer/Geologist collecting the samples will record the appropriate portions of the following information for each sample collected, as appropriate for the sample type, using indelible ink, in a field logbook or on a field data sheet as described in SOP J.

**TABLE A.1**  
**DATA QUALITY OBJECTIVE DEVELOPMENT PROCESS**  
**WASTE DISPOSAL, INC.**

ACTIVITY	RESERVOIR LIQUIDS MONITORING
Objectives	See Workplan Section 3.2.5
Intended Data Use	Develop data on reservoir constituents, to use in ground water evaluation
Required Analytical Methods of DQO Levels	VOCs (8260) Total and Dissolved Metals (6010/7000) SVOCs (8270) Pesticides (8080) Oil and Grease (418.1)
	DQO Level 2
Contaminants of Concern	VOCs Metals SVOCs Pesticides
Required Detection Levels	VOCs <sup>(1)</sup> Metals <sup>(1)</sup> SVOCs <sup>(1)</sup> Pesticides <sup>(1)</sup>
Action Levels/ Regulatory Standards	None
Sampling Points	Reservoir Extraction Wells
Critical Sampling	None

94-256/TMs/TM#13 Rev. 1.0/Att C/Appendices (3/25/98/im)

(1) Required detection limits are provided in Table B.4 of the Revised QAPP.

## **APPENDIX B**

### **QUALITY ASSURANCE PROJECT PLAN**

#### **B.1 INTRODUCTION**

1. This Supplemental Quality Assurance Project Plan (QAPP) has been prepared for the Waste Disposal, Inc. site to guide the reservoir liquids treatability study.

#### **B.2 PROJECT DESCRIPTION**

1. As discussed in TM No. 13, the objective of the sampling and analysis of the reservoir liquids is to obtain additional data on the reservoir liquid chemical characteristics and to provide data to make adjustments to the influent from the wells or the treatment plant operations.

#### **B.3 PROJECT ORGANIZATION AND RESPONSIBILITY**

##### **B.3.1 PROJECT ORGANIZATION**

1. See Appendix B Revised Quality Assurance Project Plan, Rev. 3.0.

#### **B.4 DATA QUALITY OBJECTIVES**

##### **B.4.1 DATA QUALITY OBJECTIVE DEVELOPMENT**

1. Data Quality Objectives for the reservoir sampling are provided in Table A.1 of the Revised FSAP.

##### **B.4.2 SPECIFIC DATA QUALITY OBJECTIVES**

1. The DQOs, including detection limits, accuracy, precision and completeness are presented in Table B.1 for each of the analytical methods. Data from reservoir liquids sampling will need to achieve Level 2 QA/QC requirement for site characterization data. The specific contaminants of concern for the WDI site are listed in Table B.1, with their corresponding DQOs for each concern.

## **B.5 SAMPLING PROCEDURES**

### **B.5.1 SAMPLE DESIGNATION**

1. Sample Designation Procedures are provided in SOP H.
2. Information on analytical parameters, sample containers, methods of preservation and holding times are presented in Table B.1.

### **B.5.2 SAMPLING METHODS REQUIREMENTS**

#### **B.5.2.1 Standard Operating Procedures**

1. As previously stated, the QAPP focuses on the use of SOPs. A major function of this QAPP is to provide a library of SOPs that are generally applicable to QA/QC activities. The SOPs encompass the following requirements as listed below:
  - Ground Water Well Monitoring/Sampling
  - Well Sounding
  - Equipment Decontamination
  - Sample Transport
  - Sample Chain-of-Custody
  - Sample Documentation
2. SOPs are provided in Attachment C.

#### **B.5.2.2 Water Level Measurements**

1. Water levels will be measured with an electric well sounder and steel tape as provided in SOP F. Measurements will be recorded to the nearest 0.01-foot. The sounder will be battery-operated and have marks on the sounder line at regular intervals (every 0.10 feet). If possible, water levels will be measured with the same sounder. The sounder will be accompanied by a calibration log book which will be used to record the following:
  - Data and time of last calibration.
  - Name of calibrator.
  - The point of calibration (either the center of a mark on the sounding line or the extreme of the first mark nearest the probe).
2. The sounder cable and probe will be thoroughly decontaminated after each use.

## **B.6 SAMPLE HANDLING AND CHAIN-OF-CUSTODY RECORDS**

### **B.6.1 CHAIN-OF-CUSTODY RECORDS**

1. A Chain-of-Custody record will be used as physical evidence to document sample custody. The Chain-of-Custody records are provided in SOP I.

### **B.6.2 SAMPLE HANDLING**

#### **B.6.2.1 Sample Containers**

1. Sample containers will meet or exceed EPA Level 3 requirements and will be certified clean by the supplier prior to use. Sample container types are specified in Table B.1 for each type of analysis requested.

#### **B.6.2.2 Sample Preservation**

1. Sample preservation requirements are specified in Table B.1 for each type of analysis requested, and media.

#### **B.6.2.3 Sample Shipment**

1. Samples will be packed in the following manner for shipment as provided in SOP H.

## **B.7 CALIBRATION PROCEDURES AND FREQUENCY**

### **B.7.1 FIELD CALIBRATION PROCEDURES**

1. Not required.

### **B.7.2 LABORATORY CALIBRATION PROCEDURES**

1. Calibration procedures will be as defined in EPA standard methods. For additional information, see Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.8 ANALYTICAL PROCEDURES AND METHODS**

1. A summary of the analytical procedures for ground water and subsurface gas samples, the analytical QA control limits and the detection limits to be used for the listed parameters are presented in Table B.1.

2. Analyses for VOCs, SVOCs, pesticides and metals will be conducted pursuant to EPA SW-846 requirements, including detection limits, accuracy, precision, surrogate recoveries, duplicate samples and matrix spikes as indicated in Table B.2. For purposes of this QAPP, EPA SW-846 requirements have been incorporated by reference.

## **B.9 DATA REVIEW, VALIDATION, VERIFICATION AND REPORTING**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.10 QUALITY CONTROL CHECKS AND REQUIREMENTS**

### **B.10.1 GROUND WATER SAMPLE QUALITY CONTROL**

1. Table B.\_ outlines the basic field QC requirements for water samples. Liquid sampling requires trip blanks (only for VOCs), field blanks and field duplicates.

### **B.10.2 LABORATORY QUALITY CONTROL PROCEDURES**

1. Laboratory QC procedures will be consistent with EPA Level 3 QC guidelines, as indicated in EPA SW-846. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.11 PERFORMANCE AND SYSTEM AUDITS**

### **B.11.1 PERFORMANCE AUDITS**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

### **B.11.2 FIELD AUDITS**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

### **B.11.3 LABORATORY AUDITS**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.12 PREVENTATIVE MAINTENANCE PROCEDURES AND SCHEDULES**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.13 SPECIFIC ROUTINE PROCEDURES TO ASSESS QUALITY ASSURANCE OBJECTIVES MEASUREMENT PARAMETERS**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.14 CORRECTIVE ACTION**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.15 QUALITY ASSURANCE REPORTS TO MANAGEMENT**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.16 DOCUMENTATION AND RECORDS KEEPING**

1. See Revised Quality Assurance Project Plan, Rev. 3.0.

## **B.18 REFERENCES**

EPA Order 5360.1. *Policy and Program Requirements to Implement the Mandatory Quality Assurance Program*, U.S. Environmental Protection Agency, Washington, DC (April 1984).

48 CFR Chapter 15, Subpart 1546.2, "Contract Quality Requirements."

ISO 8402-1994, *Quality Management and Quality Assurance - Vocabulary* (April 1994).

QAMS-005/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, U.S. EPA (December 1980).

*Guidance for the Data Quality Objectives Process*, EPA QA/G-4, U.S. EPA (August 1994).

EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5. U.S. EPA 1994 Draft Final.

EPA Requirements for Quality Management Plans. EPA QA/R-2. August 1994.

Quality Management Program Plan for Region 10RQMP - 001/96.

**TABLE B.1**  
**GROUND WATER ANALYSES<sup>(1)</sup> AND QUALITY CONTROL OBJECTIVES**  
**WASTE DISPOSAL, INC.**  
(Continued)

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PARAMETERS	ANALYTICAL PROCEDURE (EPA Method No.)	LABORATORY SPECIFIC MEASUREMENT QUALITY OBJECTIVES (MQOs)				TYPE OF CONTAINER	PRESERVATIVE	ANALYTICAL HOLDING TIMES	REMARKS
		Detection Limit (µg/L)	Accuracy <sup>(2)</sup> (%)	Precision <sup>(3)</sup> (%)	Completeness (%)				
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b> (Continued)									
• Chloroform	8260	0.5	77 - 128	± 30	90				
• Chloromethane	8260	0.5	37 - 129	± 30	90				
• cis-1,3-Dichloropropene	8260	0.5	66 - 129	± 30	90				
• 1,2, Dibromoethane	8260	0.5	56 - 142	± 30	90				
• Methylene Chloride	8260	0.5	51 - 139	± 30	90				
• Tetrachloroethene	8260	0.5	67 - 145	± 30	90				
• trans-1,2-Dichloroethene	8260	0.5	48 - 134	± 30	90				
• trans-1,3-Dichloropropene	8260	0.5	66 - 130	± 30	90				
• Trichloroethene	8260	0.5	71 - 135	± 30	90				
• Vinyl Acetate	8260	0.5	24 - 143	± 30	90				
• Vinyl Chloride	8260	0.5	48 - 140	± 30	90				
<b>SVOCs</b>									
• Acenaphthene	8270	5.0	51 - 126	± 30	90	1-Liter Amber Glass Bottle with Teflon® Seal.	None. Cool to 4° C.	7 Days to Extract. 40 Days after Extraction	
• Acenaphylene	8270	5.0	56 - 131	± 30	90				
• Anthracene	8270	5.0	54 - 117	± 30	90				
• Benzo(a)anthracene	8270	5.0	55 - 132	± 30	90				
• Benzo(b)fluoranthene	8270	5.0	43 - 135	± 30	90				
• Benzo(k)fluoranthene	8270	5.0	57 - 137	± 30	90				
• Benzo(g,h,i)perylene	8270	5.0	36 - 157	± 30	90				
• Benzo(a)pyrene	8270	5.0	51 - 141	± 30	90				
• bis(2-Chloroethyl)ether	8270	5.0	48 - 117	± 30	90				
• bis(2-Chloroisopropyl)ether	8270	5.0	39 - 155	± 30	90				
• bis(2-Ethylhexyl)phthalate	8270	5.0	15 - 176	± 30	90				
• 4-Bromophenyl-phenylether	8270	5.0	43 - 142	± 30	90				
• Butylbenzylphthalate	8270	5.0	50 - 139	± 30	90				
• 4-Chloroaniline	8270	5.0	46 - 126	± 30	90				
• 4-Chloro-3-methylphenol	8270	5.0	49 - 133	± 30	90				
• 2-Chloronaphthalene	8270	5.0	36 - 97	± 30	90				
• 4-Chlorophenyl-phenylether	8270	5.0	49 - 134	± 30	90				
• Chrysene	8270	5.0	55 - 134	± 30	90				
• Dibenz(a,h)anthracene	8270	5.0	41 - 144	± 30	90				
• Dibenz(a,h)acridine	8270	5.0	(4)	± 30	90				
• Dibenzofuran	8270	5.0	53 - 129	± 30	90				
• Di-n-butylphthalate	8270	5.0	50 - 129	± 30	90				
• 1,2-Dichlorobenzene	8270	5.0	30 - 120	± 30	90				
• 1,3-Dichlorobenzene	8270	5.0	28 - 114	± 30	90				
• 1,4-Dichlorobenzene	8270	5.0	28 - 116	± 30	90				
• 3,3-Dichlorobenzidine	8270	5.0	1 - 262	± 30	90				
• 2,4-Dichlorophenol	8270	5.0	43 - 124	± 30	90				
• Dimethylphthalate	8270	5.0	55 - 134	± 30	90				
• 4,6-Dinitro-2-methylphenol	8270	25	38 - 147	± 30	90				
• 2,4-Dinitrophenol	8270	25	22 - 174	± 30	90				
• 2,4-Dinitrotoluene	8270	5.0	51 - 146	± 30	90				
• 2,6-Dinitrotoluene	8270	5.0	53 - 129	± 30	90				
• Di-n-octylphthalate	8270	5.0	41 - 145	± 30	90				
• Fluoranthene	8270	5.0	52 - 128	± 30	90				

- (1) Includes reservoir liquids sampling and analyses.  
(2) Based on Matrix Spike Percent Recovery.  
(3) Based on Duplicate Samples.  
(4) Insufficient spike data for setting accuracy limits.



TABLE B.1

**GROUND WATER AND RESERVOIR LIQUIDS ANALYSES<sup>(1)</sup> AND QUALITY CONTROL OBJECTIVES**  
**WASTE DISPOSAL, INC.**

Page 1 of 3

PARAMETERS	ANALYTICAL PROCEDURE (EPA Method No.)	LABORATORY SPECIFIC MEASUREMENT QUALITY OBJECTIVES (MQOs)				TYPE OF CONTAINER	PRESERVATIVE	ANALYTICAL HOLDING TIMES	REMARKS
		Detection Limit (µg/L)	Accuracy <sup>(2)</sup> (%)	Precision <sup>(3)</sup> (%)	Completeness (%)				
<b>METALS</b>									
• Aluminum	6010A	10.0	80 - 120	± 30	90	One 1-Liter Bottle Unfiltered/One 1-Liter Bottle filtered	Acidified to pH <2 with Nitric Acid After Filtration	6 Months	
• Antimony	6010A	5.0	80 - 120	± 30	90				
• Arsenic	7060	5.0	80 - 120	± 30	90				
• Barium	6010A	10.0	80 - 120	± 30	90				
• Beryllium	6010A	2.0	80 - 120	± 30	90				
• Cadmium	6010A	5.0	80 - 120	± 30	90				
• Calcium	6010A	60.0	80 - 120	± 30	90				
• Cobalt	6010A	18.0	80 - 120	± 30	90				
• Chromium	6010A	10.0	80 - 120	± 30	90				
• Iron	6010A	10.0	80 - 120	± 30	90				
• Lead	6010A	40.0	80 - 120	± 30	90				
• Magnesium	7421	3.0	80 - 120	± 30	90				
• Manganese	6010A	30.0	80 - 120	± 30	90				
• Mercury	6010A	2.0	80 - 120	± 30	90				
• Nickel	7470	3.0	80 - 120	± 30	90				
• Selenium	6010A	32.0	80 - 120	± 30	90				
• Sodium	6010A	90.0	80 - 120	± 30	90				
• Thallium	7740	6.0	80 - 120	± 30	90				
• Vanadium	6010A	10.0	80 - 120	± 30	90				
• Zinc	6010A	40.0	80 - 120	± 30	90				
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>						Two 40 mL VOA Vials	Acidified to pH <2 with Hydrochloric Acid	14 Days	
• 1,1,1-Trichloroethane	8260	0.5	71 - 132	± 30	90				
• 1,1,2,2-Tetrachloroethane	8260	0.5	76 - 136	± 30	90				
• 1,1,2-Trichloroethane	8260	0.5	67 - 133	± 30	90				
• 1,1-Dichloroethane	8260	0.5	49 - 135	± 30	90				
• 1,1-Dichloroethene	8260	0.5	48 - 146	± 30	90				
• 1,2-Dichloroethane	8260	0.5	68 - 129	± 30	90				
• 1,2-Dichloropropane	8260	0.5	42 - 131	± 30	90				
• 2-Butanone	8260	0.5	50 - 153	± 30	90				
• 2-Chloroethyl Vinyl Ether	8260	0.5	40 - 214	± 30	90				
• 2-Hexanone	8260	0.5	20 - 149	± 30	90				
• 4-Methyl-2-pentanone	8260	0.5	40 - 125	± 30	90				
• Acetone	8260	0.5	32 - 176	± 30	90				
• Benzene	8260	0.5	72 - 124	± 30	90				
• Bromodichloromethane	8260	0.5	69 - 132	± 30	90				
• Bromoform	8260	0.5	53 - 148	± 30	90				
• Bromomethane	8260	0.5	55 - 146	± 30	90				
• Carbon Disulfide	8260	0.5	37 - 140	± 30	90				
• Carbon Tetrachloride	8260	0.5	70 - 140	± 30	90				
• Chloroethane	8260	0.5	52 - 137	± 30	90				

(1) Includes reservoir liquids sampling and analyses.

(2) Based on Matrix Spike Percent Recovery.

(3) Based on Duplicate Samples.

**TABLE B.1**  
**GROUND WATER ANALYSES<sup>(1)</sup> AND QUALITY CONTROL OBJECTIVES**  
**WASTE DISPOSAL, INC.**  
(Continued)

Page 3 of 3

PARAMETERS	ANALYTICAL PROCEDURE (EPA Method No.)	LABORATORY SPECIFIC MEASUREMENT QUALITY OBJECTIVES (MQOs)				TYPE OF CONTAINER	PRESERVATIVE	ANALYTICAL HOLDING TIMES	REMARKS
		Detection Limit (µg/L)	Accuracy <sup>(2)</sup> (%)	Precision <sup>(3)</sup> (%)	Completeness (%)				
SVOCs (Continued)									
• Fluorene	8270	5.0	55 - 126	± 30	90				
• Indeno(1,2,3-ad)pyrene	8270	5.0	30 - 172	± 30	90				
• Isophorone	8270	5.0	39 - 126	± 30	90				
• 2-Methylnaphthalene	8270	5.0	36 - 124	± 30	90				
• 2-Methylphenol	8270	5.0	36 - 116	± 30	90				
• 4-Methylphenol	8270	10.0	46 - 109	± 30	90				
• 2-Nitroaniline	8270	5.0	54 - 133	± 30	90				
• 4-Nitroaniline	8270	5.0	40 - 166	± 30	90				
• 2-Nitrophenol	8270	5.0	43 - 122	± 30	90				
• N-Nitrosophenylamine	8270	5.0	(6)	± 30	90				
• N-Nitroso-di-n-propylanine	8270	5.0	32 - 136	± 30	90				
• Naphthalene	8270	5.0	40 - 110	± 30	90				
• Nitrobenzene	8270	5.0	44 - 118	± 30	90				
• Pentachlorophenol	8270	10.0	26 - 158	± 30	90				
• Phenanthrene	8270	5.0	54 - 128	± 30	90				
• Phenol	8270	5.0	28 - 91	± 30	90				
• Pyrene	8270	5.0	53 - 128	± 30	90				
• 1,2,4-Trichlorobenzene	8270	5.0	30 - 121	± 30	90				
• 2,4,5-Trichlorophenol	8270	5.0	49 - 143	± 30	90				
• 2,4,6-Trichlorophenol	8270	5.0	50 - 134	± 30	90				

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- (1) Includes reservoir liquids sampling and analyses.  
(2) Based on Matrix Spike Percent Recovery.  
(3) Based on Duplicate Samples.  
(4) Insufficient spike data for setting accuracy limits.  
(5) Ground water samples will not be analyzed for pesticides/PCBs.  
(6) Multiple peak chromatograms inhibit setting accuracy limits.  
(7) Insufficient spike data available to set accuracy limits.

TABLE B.2

**LABORATORY QUALITY ASSURANCE REQUIREMENTS  
GROUND WATER AND RESERVOIR LIQUIDS ANALYSIS  
WASTE DISPOSAL, INC.**

Page 1 of 2

PARAMETER GROUP	CALIBRATION METHOD	CALIBRATION/QC SAMPLING FREQUENCY	ACCEPTANCE CRITERIA
Metals (Method 6010A, 7062, 7421, 7470, 7740)	Calibration Curve	At start of analysis or when continuing calibration verification standard is out of control.	Per instrument operating manual
	Initial Calibration Verification Standard	After calibration and before sample analysis	±10 percent of true value
	Calibration Blank	Every 10 samples	<Method reporting limit
	Continuing Calibration Verification Standard	Every 10 samples	±10 percent of expected value
	Instrument Blank	1 every 10 samples	<Method reporting limit
	Method Blank	1 every 20 samples	<Method reporting limit
	Laboratory Duplicate	1 every 20 samples	Precision (%) See Table B.3 Accuracy (%) See Table B.3 Completeness (%) See Table B.3
	MS/MSD	1 every 20 samples	80 to 120 percent recovery
	Laboratory Control Sample	1 every 20 samples	80 to 120 percent recovery
Volatile Organic Compounds (Method 8260)	Calibration Curve	At start of analysis or when continuing calibration verification standard is out of control	20 percent relative standard deviation if average response factor is used.
	Initial Calibration Verification Standard	After calibration and before sample analysis	±15 percent of true value
	Calibration Blank	Every 10 samples	<Method reporting limit
	Continuing Calibration Verification Standard	Every 10 samples	±15 percent of true value
	Instrument Blank	1 every 10 samples	<Method reporting limit
	Method Blank	1 every 20 samples	<Method reporting limit
	MS/MSD and LCS	1 every 20 samples	Precision (%) 30 RPD Accuracy (%) 50 to 125 percent recovery Completeness (%) 90 percent recovery
	Surrogate Compound	Every sample	4-bromofluorobenzene 86 to 115 percent recovery $\alpha$ , $\alpha$ , $\alpha$ -trifluorotoluene 86 to 115 percent recovery Dibromofluoromethane 86 to 115 percent recovery

NOTE: MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample.  
RPD = Relative Percent Difference.

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TABLE B.2

**LABORATORY QUALITY ASSURANCE REQUIREMENTS  
GROUND WATER AND RESERVOIR LIQUIDS ANALYSIS**

**WASTE DISPOSAL, INC.**

(Continued)

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PARAMETER GROUP	CALIBRATION METHOD	CALIBRATION/QC SAMPLING FREQUENCY	ACCEPTANCE CRITERIA
Semivolatile Organic Compounds (Method 8270)	Calibration Curve (5 point)	At start of analysis or when continuing calibration verification standard is out of control	Per method
	Initial Calibration Verification Standard	After preparation of new calibration verification standards. Standard is from an independent.	±15 percent of expected value or within limits set by method
	Calibration Blank	Every 10 samples	<Method reporting limit
	Continuing Calibration Verification Standard	Every 10 samples	±15 percent of expected value or within limits set by method
	Method Blank	1 every 20 samples	<Method reporting limit
	MS/MSD and LCS	1 every 20 samples	Precision (%) 30 RPD Accuracy (%) 50 to 125 percent recovery Completeness (%) 90 percent recovery
	Surrogate Compound	Every sample	p-Terphenyl 33 to 141 percent recovery 2,4,6-Tribromophenol 10 to 123 percent recovery Nitrobenzene-d <sub>5</sub> 35 to 114 percent recovery 2-Fluorobiphenyl 43 to 116 percent recovery Phenol-d <sub>6</sub> 10 to 94 percent recovery 2-Fluorophenol 21 to 100 percent recovery
Pesticides/PCBs (Method 8080)	Calibration Curve (5 point)	At start of analysis or when continuing calibration verification standard is out of control	Per method
	Initial Calibration Verification Standard	After preparation of new calibration verification standards. Standard is from an independent.	±15 percent of expected value or within limits set by method
	Calibration Blank	Every 10 samples	<Method reporting limit
	Continuing Calibration Verification Standard	Every 10 samples	±15 percent of expected value or within limits set by method
	Method Blank	1 every 20 samples	<Method reporting limit
	MS/MSD and LCS	1 every 20 samples	Precision (%) 30 RPD Accuracy (%) 50 to 125 percent recovery Completeness (%) 90 percent recovery
	Surrogate Compound	Every sample	Tetrachloro-m-xylene or decachlorobiphenyl 26 to 121 percent recovery

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NOTE: MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample.  
RPD = Relative Percent Difference.

**TABLE B.3**  
**FIELD COLLECTION QUALITY ASSURANCE REQUIREMENTS**  
**WASTE DISPOSAL, INC.**

ANALYSIS	TRIP BLANK	FIELD BLANK <sup>(1)</sup>	FIELD DUPLICATE <sup>(2)</sup>	MATRIX SPIKE AND MATRIX SPIKE DUPLICATES <sup>(3)</sup>
<b>GROUND WATER/LIQUID SAMPLES</b>				
Organics <sup>(4)</sup>	1 per 20 samples or 1 per sample shipment, whichever is greater	1 per 20 samples or 1 per sample shipment, whichever is greater	1 per 10 samples or 1 per sample shipment, whichever is greater	1 per 20 samples or 1 per sample shipment, whichever is greater
Inorganics <sup>(5)</sup>	None	1 per 20 samples or 1 per sample shipment, whichever is greater	1 per 10 samples or 1 per sample shipment, whichever is greater	1 per 20 samples or 1 per sample shipment, whichever is greater

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- (1) Field blanks will be collected during ground water and surface water sampling procedures only when nondedicated sampling equipment is used. Field blanks require an additional sample volume (see Tables B.1 and B.2). Note that field blanks will be labeled so the laboratory cannot determine that the sample is a field blank.
- (2) Field duplicates require an additional sample volume (see Tables B.1 and B.2). Note that field duplicates will be labeled so the laboratory cannot determine that the sample is a field duplicate. Field duplicates will be collected as split samples from the actual sample collected.
- (3) MS/MSD samples require two additional sample volumes for organic analysis. Matrix spike samples require an additional sample volume for inorganic analyses (see Table B.1).
- (4) Includes VOCs, SVOCs and PCBs.
- (5) Includes metals.

# **STANDARD OPERATING PROCEDURE E WELL LIQUID SAMPLING ACTIVITIES WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Ground water wells, probes, boreholes and other liquid collectors will be purged and sampled to supplement existing ground water quality data. This information will be evaluated and used to optimize the location and design of present and future site monitoring and collection systems. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Design Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Ground water monitoring wells, gas monitoring and extraction wells, gas monitoring probes, boreholes and collectors are purged and sampled to determine ground water quality. These various measurement points are hereinafter called "wells" in these Standard Operating Procedures (SOP).

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Centrifugal, submersible, peristaltic pump or bailer for purging and sample collection.
  - pH and temperature meter.
  - Specific conductance meter.
  - Bailers.
  - Sample containers (provided by selected laboratory, or equivalent, with appropriate preservatives as outlined in the Quality Assurance Project Plan [QAPP]).
  - Buckets and intermediate containers.
  - Coolers and ice.
  - Bailer cord.
  - Gloves (nitrile).
  - Chemical-free paper towels.
  - Plastic sheets.
  - Sample bottle labels.
  - Field Activity Report forms and/or appropriate monitoring data sheets (see SOP J).
  - Monitoring well purge and sample form (see QAPP Figure B.1).
  - Timepiece.
  - Pen with indelible ink.

## 4.0 TASK PERFORMANCE

### 4.1 WELL PURGING PROCEDURES

1. Each well will be purged prior to sample collection. If practical, three well volumes of ground water will be withdrawn prior to sample collection; however, if the well can be purged dry, only one volume will be withdrawn. The volume of water present in each well will be computed based on the length of the water column, the well casing diameter and the diameter of the borehole (accounting for the porosity of the gravel pack in annulus). The volume of water required to be purged from the well will be calculated as follows:<sup>(1)</sup>

$$V = 7.48 \times N [\pi r^2 h + n(\pi R^2 h - \pi r^2 h)]$$

for  $N = 3$  and  $n = 0.3$ , the equation becomes

$$V = 70.5h (0.7r^2 + 0.3R^2)$$

where:

V = Volume to be pumped (gallons).

N = Number of well volumes to be pumped.

$\pi$  = 3.14159.

r = Radius of the well casing (in feet).

h = Saturated thickness (in feet) of ground water in the well, or the depth of well minus the depth to water (in feet).

n = Porosity of the gravel pack.

R = Radius of the borehole (feet).

2. Water will be purged from the bottom of the well screened interval. At the start of purging and after every well volume withdrawn, the temperature, conductivity, and pH of the purge water will be measured. A conventional pH meter with a combination gel-filled electrode, or equivalent, will be used for pH determinations. A combination electrical conductivity-temperature-salinity meter, or equivalent measuring device, will be used for determining conductivity and temperature. Samples will be collected when measurements do not vary by more than 10 percent over two consecutive measurements. As described in the QAPP, these instruments will be calibrated daily to maintain accuracy. Field parameter values will be recorded on the ground water sample collection record, along with the corresponding purge volume.

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(1) Gigliello, L. 1984 Groundwater-Leachate Sampling. Technomic Publishing.

3. Purging will normally be accomplished with the use of a submersible pump or a bailer. The submersible pumps will not be used for the collection of samples for analyses, however. Upon completion of well purging, a representative ground water sample will be withdrawn by bailer, using the method below.

#### **4.2 WELL SAMPLING PROCEDURES**

1. A low flow sampling pump will be used, in accordance with EPA guidance for ground water sampling. If samples cannot be obtained using this equipment, a clean, decontaminated Teflon<sup>®</sup> or stainless steel bailer and a spool of new, clean polypropylene rope, or equivalent bailer cord, will be used. The bailer will be fitted with a petcock valve to facilitate controlled filling of sample containers. Using the rope at the end of the spool, a bowline (or equivalent) secure knot will be tied through the bailer loop. The knot and the bailer will be inspected visually for security to assure that the parts are intact prior to inserting the bailer into the well.
2. The protective wrapping (which is around the bailer when they are procured) will be removed from the bailer, and the bailer will then be lowered into the monitoring well. The bailer and bailer rope will touch only clean surfaces, and handling of the bailer or rope will be done by individuals wearing surgical gloves. The bailer will not touch the ground surface during the bailing routine. Water samples will be obtained from midpoint or lower within the water column; this will be accomplished by lowering the bailer to the midpoint or lower before retrieving it from the well.
3. When removing the sample from its container to the sample bottle, the mixing of air will be minimized by tilting the sample bottle and allowing the water to run down the inside wall of the bottle. A gentle stream of water should exit the bailer valve. High velocities will cause oxygen uptake and loss of volatiles.
4. Plastic bottles without preservatives will be completely filled to minimize air contact; however, 1-liter, 1/2-gallon, 1-gallon, or 5-gallon glass bottles would be filled 90 percent full to allow room for expansion and contraction of liquid.
5. When sampling for volatile organic compounds (VOCs), the 40 milliliter (mL) sample vials will be completely filled and will have no headspace. To avoid aeration, the sampler will be held at an angle so that the stream of water flows down the side. The vial will be filled until it



overflows to eliminate air bubbles, and the Teflon<sup>®</sup>-lined cap will be replaced. A stainless steel cup may be used to fill the vial, if necessary. Two vials will be collected for each sample.

6. The vial will be turned upside-down and tapped to check for air bubbles. If bubbles are present, the vial will be disposed of, and a sample bottle filled.

#### **4.3 SAMPLE IDENTIFICATION PROCEDURES**

1. Each sample collected will be identified as having originated from the site by prefacing each sample designation with "WDI" (for Waste Disposal, Inc.), will be identified by an alpha and numerical code, and will have an additional two-digit number as the last component of the sample identifier. The two-digit number will correspond to the ground water sampling round being performed. The sample identifier is illustrated below:
  - WDI-GMW-01-03 Existing Ground Water Monitoring Well No. 01, third sampling round for this well.

#### **4.4 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. Information on analytical parameters, sample containers, methods of preservation, and holding times are specified in the QAPP.

#### **4.5 SAMPLE CONTAINER REQUIREMENTS**

1. Each sample container will be labeled with the name of the person taking the sample, date and time, identification code, type, preservation method, and analyses to be performed. The label will also indicate if the sample is to be held in appropriate storage by the laboratory until the geologist/engineer determines if analyses are to be performed based on initial analytical results for representative samples.

#### **4.6 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. Ground water sampling requires the use of trip blanks, equipment rinsates, field blanks, field duplicates, and background samples for QC purposes. These QC procedures are discussed in the QAPP.

2. Field ground water QC samples will be initially identified in the same manner as field samples and have the following suffix designation:

- TB - Trip Blank
- FR - Field Equipment Rinsate
- FB - Field Blank
- FD - Field Duplicate
- FBM - Filtration Blank Metals

An example of each is presented below:

- WDI-GMWTB-01
- WDI-GMWFR-01
- WDI-GMWFB-01
- WDI-GMWFD-01
- WDI-GMWFBM-01

The final number for the FD Sample is the designation of the specific well being sampled.

#### **4.7 SAMPLE PACKAGING AND TRANSPORTATION**

1. Samples will be packed in the following manner for shipment. Detailed transportation procedures are provided in SOP H.
  - A custody seal will be placed on each sample container.
  - Each sample container will then be wrapped in bubble pack or other packing material, placed in separate, sealable plastic bags, and then placed in an ice chest precooled to 4 degrees Celsius (°C) with Blue Ice<sup>®</sup> packages or double-bagged ice packets.
  - The completed Chain-of-Custody record going to the laboratory will be placed in a sealable plastic bag, which will then be placed in the cooler.
  - The cooler lid will then be taped shut with strapping/packaging tape.
  - A custody seal will be completed, signed and attached to the lid and the front of the cooler for hinged coolers. Two custody seals will be attached to coolers with removable lids. One will be attached to the front and one to the back of these coolers.
  - The coolers will be hand-delivered or shipped via overnight carrier to the laboratory at the end of each day's sampling. Samples will be shipped in a manner such that the laboratory will receive them within 24 hours or less from the actual sampling times, depending on the holding times.

#### **4.8 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. Precautions will be taken to limit the contamination of samples from outside sources. Hands will be washed with distilled water, and rubber surgical gloves will be worn, especially if petroleum products are encountered. The order of sampling will be from the least contaminated well to the most contaminated well.

2. Only clean, decontaminated Teflon<sup>®</sup> or stainless steel bailers, or new disposable plastic bailers and new clean bailer cords will be used to sample the ground water. The bailer and bailer rope will touch only clean surfaces, and handling of the bailer or rope will be done by individuals wearing surgical gloves. The bailer will not touch the ground surface during the bailing routine.

#### **4.9 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. Perform sample documentation in accordance with the procedures in the Field Sampling and Analysis Plan (FSAP) and SOP J. In addition, immediately record monitoring and measurement data in the Field Activity Report and/or an appropriate monitoring data sheet.

#### **4.10 CHAIN-OF-CUSTODY PROCEDURES**

1. Chain-of-Custody procedures which are discussed in the QAPP and in SOP I will be used to maintain and document sample possessions. The Chain-of-Custody record will be initiated at the time of sampling and will contain the sample number, date and time, name and dated signature of the person taking the sample, as well as the methods by which each sample will be analyzed, and other pertinent information.
2. Sample transfers will be noted on the record sheet for each sample. Standardized Chain-of-Custody forms will be used for tracking samples for the point of origin in the field through laboratory processing and disposal.
3. More than one sample may appear on a Chain-of-Custody form. The form will accompany the samples, attached within the ice chest. One copy of each form will be retained by field personnel prior to shipment of the samples to the laboratory. An example Chain-of-Custody form is presented in Figure B.2 of the QAPP and Table 1 of SOP I. Copies of the Chain-of-Custody records completed by the laboratory will be returned with the results of laboratory analyses.
4. For specific Chain-of-Custody procedures, refer to SOP I.

# **STANDARD OPERATING PROCEDURE F WELL LIQUID LEVEL SOUNDING ACTIVITIES WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Wells, probes, boreholes and other liquid collectors will be sounded to augment, supplement and confirm existing data related to liquids distribution. This information will be evaluated and used to optimize the location and design of present and future site monitoring and collection systems. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Design Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Ground water monitoring wells, gas monitoring and extraction wells, gas monitoring probes, boreholes and collectors are sounded to determine liquid level. These various measurement points are hereinafter called "wells" in these Standard Operating Procedures (SOP).

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Solinst water level meter with 300 feet of sounding line and a Type P.4 probe (or similar).
  - One 9-volt alkaline battery for power backup.
  - Field Activity Report forms and/or appropriate monitoring data sheets.
  - Timepiece.
  - Pen with indelible ink.

## **4.0 TASK PERFORMANCE**

### **4.1 SAMPLE IDENTIFICATION PROCEDURES**

1. The measurement procedure in this SOP is performed with a direct-read instrument. No samples are collected for subsequent offsite analysis. The use of a unique identifier to differentiate various collected samples is not applicable to direct-read field data which are

immediately recorded in the proper locations in a Field Activity Report and/or an appropriate monitoring data sheet. If the measurement points themselves do not already have unique identifiers (i.e. WDI-GW-03), such will be developed as appropriate.

#### **4.2 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. The measurement procedure in this SOP is performed with a direct-read instrument. The analytical parameters and methods are provided within the instrument and within this SOP. As samples are not collected, sample preservation methods and/or solutions are not required.

#### **4.3 SAMPLE CONTAINER REQUIREMENTS**

1. The measurement procedure in this SOP is performed with a direct-read instrument. Samples will not be retained. There are no sample container requirements.

#### **4.4 SOUNDING PROCEDURES**

1. Well sounding is conducted using a Solinst water level meter or similar device, which consists of a monitoring circuit for liquid level detection and a length of calibrated, coated wire. The other end of the line is secured to a spool, so that the line may be easily rolled.
2. To sound the well, remove the cap (if any) on top of the well, and lower the weighted end of the sounder into the well. If the well does not have a cap, remove a sampling port cap or unscrew the sample port labcock to insert the sounder. For some wells, the well cap may be removed. Lower the sounder until the buzzer on the sounder spool activates ("buzzes"), indicating liquids are at the sounder end. Because the sounder may give a false positive reading as it picks up moisture on the side of the well, bounce the sounder cable to shake off liquids. If the buzzer stays activated, note the depth as "depth to liquid." If the buzzer stops, continue lowering the sounder until it cannot be made to reset and record the depth in the Field Activity Report and/or an appropriate monitoring data sheet (e.g., Boring Log). Raise the probe above the liquid level and resubmerge two or three times to confirm an accurate reading of liquid level.

3. To sound total depth, lower the sounder until it is felt to hit the bottom of the well (tension on the line will reduce). To assure that the sounder is not "hung up" inside the well, shake the sounder cable and continue to lower the sounder, if possible. If not, record the reading as "total depth."
4. Note that there may be a correction factor which is applicable to the particular sounder, often indicated as inches of correction per 100 feet of measured sounding depth. Incorporate the correction factor in the sounding activities and document it in the Field Activity Report and/or appropriate monitoring data sheet.

#### **4.5 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. Blanks and duplicate samples are not applicable to direct-read field instruments. Such equipment is calibrated and receives preventative maintenance as described in the calibration section of the Quality Assurance Project Plan (QAPP).

#### **4.6 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. Sample contamination will generally not have an impact on obtaining good quality liquid level measurements. However, cross contamination of liquids between wells may have a significant adverse impact on liquid characterization activities (e.g., ground water monitoring). Decontaminate the probe and sounding cable after use at each particular location in accordance with procedures in the Field Sampling and Analysis Plan (FSAP) and SOP G.

#### **4.7 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. Perform sample documentation in accordance with the procedures in the FSAP and SOP J. In addition, immediately record monitoring and measurement data in the Field Activity Report and/or an appropriate monitoring data sheet. As the monitoring and measurement procedure in this SOP is performed with a direct-read instrument, sample labeling is not required.

#### **4.8 SAMPLE PACKAGING AND TRANSPORTATION PROCEDURES**

1. The monitoring and measurement procedure in this SOP is performed with a direct-read instrument. Sample packaging and transportation is not required.

#### **4.9 CHAIN-OF-CUSTODY PROCEDURES**

1. The monitoring and measurement procedure in this SOP is performed with a direct-read instrument. Chain-of-Custody documentation is not required.

# **STANDARD OPERATING PROCEDURE G EQUIPMENT DECONTAMINATION WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Field sampling equipment will be decontaminated prior to and between drilling at each individual site location using these decontamination procedures to avoid cross contamination and to maintain the integrity of the samples. These procedures do not apply to disposable equipment. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Design Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Field sampling equipment will be decontaminated according to the following procedures to avoid cross contamination and to maintain the integrity of the samples.

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Steam cleaner or high pressure hot water cleaner.
  - Nonphosphate detergent.
  - Tap water.
  - 0.1N nitric acid rinse solution.
  - Deionized/distilled water.
  - Pesticide grade solvent rinse solution.
  - Three buckets.
  - Brushes.
  - Paper towels.
  - Disposable (Nitrile) gloves.



## **4.0 TASK PERFORMANCE**

### **4.1 EQUIPMENT DECONTAMINATION PROCEDURES**

1. Augers (including hand augers and hydraulically pushed sampler units) will be decontaminated prior to and between drilling at each borehole site by steam cleaning or high pressure hot water cleaning.
2. The drilling rig may be decontaminated at anytime during the sampling program, if the field geologist or engineer believes the integrity of vapor wells may be affected by contaminated conditions on the rig. Decontamination will consist of steam cleaning or high-pressure washing of truck wheels, chassis, or other rig components affected.
3. Nondisposal sampling equipment (e.g., stainless steel bailer) will be decontaminated at the location where it was used.
4. The following is the general decontamination procedure for field equipment used in the subsurface investigation:
  - Removal of soil and placement in drum.
  - Washing and scrubbing with nonphosphate detergent.
  - Tap water rinse.
  - 0.1N nitric acid rinse (when cross contamination from metals is a concern).
  - Deionized/distilled water rinse.
  - Pesticide grade solvent rinse (when semivolatile organic compounds [SVOCs] and nonvolatile organic compounds [non-VOC] contamination may be present).
  - Isopropyl alcohol rinse.
  - Deionized/distilled water rinse.
  - Organic-free water rinse.
  - Air dry.
  - Wrapping in aluminum foil, shiny side out, for transport.

### **4.2 SAMPLE IDENTIFICATION PROCEDURES**

1. The decontamination procedures in these Standard Operating Procedures (SOP) will not generate samples. However, soil cuttings will be field analyzed using direct-read instruments. Sample identification is not required as indicated in Appendix D, Waste Materials Disposal Plan.

#### **4.3 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. The decontamination procedures in this SOP will not generate samples. Laboratory analytical parameters, methods and sample preservation are not required.

#### **4.4 SAMPLE CONTAINER REQUIREMENTS**

1. The decontamination procedures in this SOP will not generate samples. Sample containers are not required.

#### **4.5 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. The decontamination procedures in this SOP will not generate samples. Sample duplicates are not required.

#### **4.6 SAMPLE PACKAGING AND TRANSPORTATION**

1. The decontamination procedures in this SOP will not generate samples. Soil sample packaging or transportation are not required.

#### **4.7 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. The decontamination procedures in this SOP will not generate samples.

#### **4.8 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. The decontamination procedures in this SOP will not generate samples. Sample documentation and labeling are not required.

#### **4.9 CHAIN-OF-CUSTODY PROCEDURES**

1. The decontamination procedures in this SOP will not generate samples. Chain-of-Custody documentation is not required.

# **STANDARD OPERATING PROCEDURE H SAMPLE PACKAGING AND TRANSPORTATION PROCEDURES WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Samples collected pursuant to Waste Disposal, Inc. (WDI) activities are required to be handled and transported using this sample transportation procedure. This procedure does not apply to samples processed solely by direct-read field instruments, including, but not limited to the following instruments: (1) Flame Ionization Detector/Photoionization Detector (FID/PID); (2) GX-3N; (3) thermometer; and (4) barometer. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Collected samples will be transported using this sample transportation procedure.

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Chain-of-Custody seal(s).
  - Bubble pack or equivalent packing material.
  - Plastic, sealable bags.
  - Precooled ice chest.
  - Blue Ice® packages or double-bagged ice packets.
  - Completed Chain-of-Custody record.
  - Packaging tape.

## **4.0 TASK PERFORMANCE**

### **4.1 SAMPLE PACKAGING PROCEDURES**

1. Samples will be packed in the following manner for shipment:
  - A Chain-of-Custody seal will be placed on each sample container.
  - Each sample container will then be wrapped in bubble pack or other packing material, placed in separate, sealable plastic bags, and then placed in an ice chest precooled to 4 degrees Celsius (°C) with Blue Ice® packages or double-bagged ice packets.

- The completed Chain-of-Custody record going to the laboratory will be placed in a sealable plastic bag, which will then be placed in the cooler.
- The cooler lid will then be taped shut with strapping/packaging tape.
- A Chain-of-Custody seal will be completed, signed and attached to the lid and the front of the cooler for hinged coolers. Two custody seals will be attached to coolers with removable lids. One will be attached to the front and one to the back of these coolers.

#### **4.2 SAMPLE TRANSPORTATION PROCEDURES**

1. The coolers will be hand-delivered or shipped via overnight carrier to the laboratory at the end of each day's sampling. Samples will be shipped in a manner such that the laboratory will receive them within 24 hours or less from the actual sampling times, depending on holding times.

#### **4.3 SAMPLE IDENTIFICATION PROCEDURES**

1. The sample packaging and transportation procedures in these Standard Operating Procedures (SOP) will not generate samples. Sample identification is not required.

#### **4.4 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Laboratory analytical parameters, methods and sample preservation are not required.

#### **4.5 SAMPLE CONTAINER REQUIREMENTS**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Sample containers are not required.

#### **4.6 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Sample duplicates are not required.

#### **4.7 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Hands will be washed and gloves (nitrile) will be worn before handling sample containers to minimize chances of cross contamination.

#### **4.8 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Sample documentation and labeling is not required.

#### **4.9 CHAIN-OF-CUSTODY PROCEDURES**

1. The sample packaging and transportation procedures in this SOP will not generate samples. Refer to SOP I for detailed Chain-of-Custody requirements.

# **STANDARD OPERATING PROCEDURE I SAMPLE CHAIN-OF-CUSTODY WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Samples collected pursuant to Waste Disposal, Inc. (WDI) activities are required to be handled and transported using this Chain-of-Custody procedure as physical evidence of sample custody. This procedure does not apply to samples processed solely by direct-read field instruments, including, but not limited to the following instruments: (1) Flame Ionization Detector/Photoionization Detector (FID/PID); (2) GX-3N; (3) Organic Vapor Analyzer (OVA); (4) thermometer; and (5) barometer. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Collected samples will be transported using this Chain-of-Custody procedure, which provides the means to identify, track and monitor the Chain-of-Custody of each individual sample from the point of collection through data analysis.

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Quality Assurance Project Plan (QAPP) Figure B.2 - Chain-of-Custody record(s), of sufficient quantity for the planned sampling activity.
  - QAPP Figure B.3 - Sample Chain-of-Custody Seals, of sufficient quantity for the planned sampling activity.
  - Pen with indelible ink.

## **4.0 TASK PERFORMANCE**

### **4.1 CHAIN-OF-CUSTODY PROCEDURES**

1. A Chain-of-Custody record is required for each shipment of samples. Table 1 needs to be completed with applicable information for each sample in the shipment. The record is

completed in indelible ink. Changes or corrections to the record consist of line-out deletions (e.g., no "white-out" correction fluid) which are initialed and dated by the author of the change or correction.

2. The Chain-of-Custody record is completed by a field technician who performed and/or witnessed the sample collection activity(ies). After completion of the record down through the initial "Relinquished by:" row, a copy is made of the record for retention by the originating field technician or designee. The original record is then sealed in a plastic bag and secured in the shipping container. The shipping container is then closed and sealed.
3. The person relinquishing the samples places completed Chain-of-Custody seals on the sample and/or the shipping container. Chain-of-Custody seals are gummed paper seals or similar devices which contain the signature and date of the relinquishing person. Chain-of-Custody seals are affixed in such a way that the sample and/or shipping containers cannot be opened without breaking the seal. When samples are shipped, a minimum of two custody seals are affixed to each shipping container in such a way which would indicate if the container was opened in transit.
4. The shipping container is not opened and the Chain-of-Custody seals are not broken or otherwise tampered with until the shipping container is received at the analytical laboratory. If this is not the case, the intermediate person(s) taking temporary custody of the samples must acknowledge his/her formal custody by completing the first incomplete "Received by:" row and then later the subsequent "Relinquished by:" row on the Chain-of-Custody record, and placing fresh Chain-of-Custody seals with the current signature and date on the shipping container (as described in Item 3 above). This process is repeated as necessary to reflect other intermediate custody of the samples. Note that the preference is that neither the courier nor other intermediate party open the shipping container and thereby take formal custody of the samples. Intermediate custody should solely be "superficial" custody of the closed and sealed shipping container, which does not warrant documentation on the Chain-of-Custody record.
5. The person relinquishing the samples to the courier retains a copy of the shipping paper.
6. The laboratory representative who accepts the incoming sample shipment at the receiving laboratory will complete the first incomplete "Received by:" row on the Chain-of-Custody record to acknowledge receipt of the samples. This signed original (or a copy) will then be returned with the analytical reports.

7. The laboratory representative who accepts the incoming sample shipment at the receiving laboratory will inspect the samples. If the Chain-of-Custody seals or sample containers are broken or have been tampered with, if the signature and date on the shipping container Chain-of-Custody seals does not match that of the last "Relinquished by:" information on the Chain-of-Custody record, if there is a discrepancy between the actual sample identification numbers and those noted on the Chain-of-Custody record or if there is other apparent discrepancy or potential anomaly, the samples will not be analyzed until the issue is resolved through contact with the originating field technician or his/her Monitoring Foreman. The laboratory will provide such notification by the most expedient method (e.g., telephone and/or facsimile), followed by a written notification. A complete copy of the documentation of the issue and its resolution will be provided by the laboratory with the analytical reports.

#### **4.2 SAMPLE IDENTIFICATION PROCEDURES**

1. The Chain-of-Custody procedures in these Standard Operating Procedures (SOP) will not generate samples. Sample identification is not required.

#### **4.3 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. The Chain-of-Custody procedures in this SOP will not generate samples. Laboratory analytical parameters, methods and sample preservation are not required.

#### **4.4 SAMPLE CONTAINER REQUIREMENTS**

1. The Chain-of-Custody procedures in this SOP will not generate samples. Sample containers are not required.

#### **4.5 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. The Chain-of-Custody procedures in this SOP will not generate samples. Sample duplicates are not required.

#### **4.6 SAMPLE PACKAGING AND TRANSPORTATION**

1. The Chain-of-Custody procedures in this SOP will not generate samples. Sample packaging or transportation are not required.



#### **4.7 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. The chain-of-custody procedures in this SOP will not generate samples.

#### **4.8 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. The Chain-of-Custody procedures in this SOP will not generate samples. Sample documentation and labeling are not required.

# **STANDARD OPERATING PROCEDURE J FIELD SAMPLE DOCUMENTATION WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Monitoring and sample collection activities conducted at the Waste Disposal, Inc.(WDI) site require standardized documentation. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Design Investigative Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Documentation of monitoring and sample collection activities utilizes standard forms and format.

## **3.0 REQUIRED MATERIALS**

1. The following forms are required for this procedure:
  - Table 1 - Field Activity Report.
  - Appropriate monitoring data sheets as indicated by particular activity documents (e.g., Technical Memoranda [TMs]). The following example monitoring data sheets are included with this Standard Operating Procedures (SOP):
    - Table 2 - Well Monitoring Data Sheet
    - Table 3 - Gas Probe Monitoring Data Sheet
    - Table 4 - Well Depth and Liquid Soundings Monitoring Data Sheet
    - Figure 1 - Field Boring Log

These examples are for certain routine monitoring events. Other forms may be used.

The Field Activities Report and/or appropriate monitoring data sheets are determined on an event-specific basis.

## **4.0 TASK PERFORMANCE**

### **4.1 SAMPLE DOCUMENTATION PROCEDURES**

1. Monitoring and sample collection activities are documented with thorough and accurate record keeping on Field Activity Report (Table 1) forms and/or appropriate monitoring data sheets.

Entries on those forms include the following information, as applicable:

- Name of sampler.
- Sample identification number(s).
- Physical conditions during sampling.
- Climatic conditions.
- Date and time of collection.
- Sample collection procedure/equipment.
- Sample identification and volume of sample(s).
- Types of sample containers collected.
- Parameters requested for analysis.
- Duplicates collected and identification numbers.
- Type and number of blanks collected and identification numbers.
- Field observations.
- Decontamination procedures.
- Name of courier and laboratory.

2. Documentation will provide sufficient information to reconstruct the monitoring or sampling event without relying on the field technician's memory. Field Activity Reports and/or appropriate monitoring data sheets will be completed at the time of the activity or immediately thereafter.

### **4.2 SAMPLE IDENTIFICATION PROCEDURES**

1. The documentation procedures in this SOP will not generate samples. Sample identification is not required.

### **4.3 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. The documentation procedures in this SOP will not generate samples. Laboratory analytical parameters, methods and sample preservation are not required.

### **4.4 SAMPLE CONTAINER REQUIREMENTS**

1. The documentation procedures in this SOP will not generate samples. Sample containers are not required.

#### **4.5 BLANKS AND DUPLICATE SAMPLE PROCEDURES**

1. The documentation procedures in this SOP will not generate samples. Sample duplicates are not required.

#### **4.6 SAMPLE PACKAGING AND TRANSPORTATION**

1. The documentation procedures in this SOP will not generate samples. Soil sample packaging or transportation are not required.

#### **4.7 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. The documentation procedures in this SOP will not generate samples.

#### **4.8 CHAIN-OF-CUSTODY PROCEDURES**

1. The documentation procedures in this SOP will not generate samples.

# **STANDARD OPERATING PROCEDURE O TANK AND/OR DRUM LIQUIDS SAMPLING ACTIVITIES WASTE DISPOSAL, INC. SUPERFUND SITE**

## **1.0 GENERAL**

1. Baker tanks and 55 gallon drums will be sampled to supplement characterization of stored liquids on site. The analytical data obtained from these samples will be evaluated and used to select the appropriate final TSD facility. Appropriate health and safety, emergency response and Quality Assurance/Quality Control (QA/QC) procedures are provided in the Appendices of the Remedial Design Investigation Activities Workplan.

## **2.0 TASK DESCRIPTION**

1. Sample Collection of liquids produced during site activities are sampled using a Coliwasa sampler or equivalent.

## **3.0 REQUIRED MATERIALS**

1. The following materials are required for this procedure:
  - Coliwasa sampler or equivalent.
  - Sample containers (provided by the selected laboratory, or equivalent, with appropriate preservations as outlined in the Quality Assurance Project Plan (QAPP).
  - Cooler and ice.
  - Nitrile gloves.
  - Sample bottle labels.
  - Fluid Activity Report and/or sample log book.
  - Timepiece.
  - Pen with indelible ink.
  - Five gallon buckets.
  - Non-phosphate detergent.
  - 0.1 N Nitric acid rinse solution.
  - Distilled/deionized water.
  - Brushes.
  - Tap water.
  - Isopropyl alcohol.

## 4.0 TASK PERFORMANCE

### 4.1 SAMPLE COLLECTION PROCEDURES

1. Lower the sampler into the container and pull up the plunger to allow liquids to flow into the sampler. Each sample should be a composite collected from the top 1/3, midpoint and bottom 1/3 of the liquid column. The sampler should only be handled by individuals wearing nitrile gloves and should not touch the sides or bottom of the container.
2. Transfer the sample from its container to a sample bottle, tilt the bottle to allow the water to run down the inside wall of the bottle to prevent mixing the sample with air. A gentle stream of water should exit the sampler. High velocities can cause oxygen uptake and loss of volatile organic compounds (VOCs).
3. Plastic bottle without preservative will be filled completely to minimize air contact. Glass bottles will be filled 90 percent to allow room for expansion and contraction of the liquid.
4. Dissolved metals samples need to be field filtered prior to filling the prepared containers. Bailed liquids will be transferred to a "Norton-Norwell" pressurized bailing system, or equivalent, for filtration through a 0.45 micron disposable filter.
5. When sampling for VOCs, the 40 millimeter sample vial will be held at an angle so the stream of water runs down the inside of the vial. The vial will be filled until it overflows to eliminate air bubbles and the Teflon-lined cap replaced.
6. The vials will be turned upside down and typed to check for air bubbles. All vials must have no headspace. If bubbles are present, the vial will be disposed of and a new sample vial filled.
7. While drawing samples from a sample port, the flow should be controlled by positioning the valve on the port such that a continuous, low-flow condition is established. If the flow from the port is turbulent, causing air bubbles in the stream, a Tygon tubing should be attached to the port to direct the stream into a more laminar flow condition, thereby decreasing the incidence of air bubbles. A stopcock will be placed at the end of the tubing; samples will be drawn as the tubing fills with liquid. Clean stopcocks and Tygon tubing will be used at each sampling location. Tygon tubing will not be reused, and must be disposed.

8. Sample bottles will be kept at 0 to 4 degrees Celsius (°C) in an iced cooler/chest so they remain cool prior to sampling. Filled sample bottles will be packaged and placed directly into an iced cooler/chest.

#### **4.2 SAMPLE IDENTIFICATION PROCEDURES**

1. Each sample collected will be identified as having originated from the site by prefacing each sample designation with "WDI" (for Waste Disposal, Inc.) followed by an alpha and numerical code. The sample identifier is illustrated below:
  - WDI-BT 1000-01-01-99 as Baker Tank (BT) #1000 sampled January 1, 1999
  - WDI-PD 001-01-01-99 as Product Drum #1 generated January 1, 1999

#### **4.3 SAMPLER DECONTAMINATION**

1. Decontamination of the sample will be performed as described in SOP O of the RD Investigative Workplan.

#### **4.4 ANALYTICAL PARAMETERS, METHODS AND SAMPLE PRESERVATION**

1. Information on analytical parameters, sample containers, methods of preservation, and holding times are specified in the QAPP.

#### **4.5 SAMPLE CONTAINER REQUIREMENTS**

1. Each sample container will be labeled with the name of the person taking the sample, date and time, identification code, type, preservation method, and analyses to be performed. The label will also indicate if the sample is to be held in appropriate storage by the laboratory until the geologist/engineer determines if analyses are to be performed based on initial analytical results for representative samples.

#### **4.6 SAMPLE PACKAGING AND TRANSPORTATION**

1. Samples will be packed in the following manner for shipment. Detailed transportation procedures are provided in SOP H.
  - A custody seal will be placed on each sample container.
  - Each sample container will then be wrapped in bubble pack or other packing material, placed in separate, sealable plastic bags, and then placed in an ice chest precooled to 4 degrees Celsius (°C) with Blue Ice<sup>®</sup> packages or double-bagged ice packets.
  - The completed Chain-of-Custody record going to the laboratory will be placed in a sealable plastic bag, which will then be placed in the cooler.
  - The cooler lid will then be taped shut with strapping/packaging tape.
  - A custody seal will be completed, signed and attached to the lid and the front of the cooler for hinged coolers. Two custody seals will be attached to coolers with removable lids. One will be attached to the front and one to the back of these coolers.
  - The coolers will be hand-delivered or shipped via overnight carrier to the laboratory at the end of each day's sampling. Samples will be shipped in a manner such that the laboratory will receive them within 24 hours or less from the actual sampling times, depending on the holding times.

#### **4.7 PROCEDURES TO AVOID SAMPLE CONTAMINATION**

1. Precautions will be taken to limit the contamination of samples from outside sources. Hands will be washed with distilled water, and rubber surgical gloves will be worn, especially if petroleum products are encountered. The order of sampling will be from the least suspected contaminated source to the most contaminated source.
2. Only clean, decontaminated Teflon<sup>®</sup> or stainless steel bailers, or new disposable plastic bailers and new clean bailer cords will be used to sample the ground water. The bailer and bailer rope will touch only clean surfaces, and handling of the bailer or rope will be done by individuals wearing surgical gloves. The bailer will not touch the ground surface during the bailing routine.

#### **4.8 SAMPLE DOCUMENTATION AND LABELING PROCEDURES**

1. Perform sample documentation in accordance with the procedures in the Field Sampling and Analysis Plan (FSAP) and SOP J. Record sampling data in the Field Log Book or Activity Report.



#### 4.9 CHAIN-OF-CUSTODY PROCEDURES

1. Chain-of-Custody procedures which are discussed in the QAPP and in SOP I will be used to maintain and document sample possessions. The Chain-of-Custody record will be initiated at the time of sampling and will contain the sample number, date and time, name and dated signature of the person taking the sample, as well as the methods by which each sample will be analyzed, and other pertinent information.
2. Sample transfers will be noted on the record sheet for each sample. Standardized Chain-of-Custody forms will be used for tracking samples for the point of origin in the field through laboratory processing and disposal.
3. More than one sample may appear on a Chain-of-Custody form. The form will accompany the samples, attached within the ice chest. One copy of each form will be retained by field personnel prior to shipment of the samples to the laboratory. An example Chain-of-Custody form is presented in Figure B.2 of the QAPP and Table 1 of SOP I. Copies of the Chain-of-Custody records completed by the laboratory will be returned with the results of laboratory analyses.
4. For specific Chain-of-Custody procedures, refer to SOP I.

## TABLE 1

### FIELD ACTIVITY REPORT

WASTE DISPOSAL, INC. SUPERFUND SITE		PROJECT NO.: 94-256		DATE	
FIELD ACTIVITY SUBJECT				PAGE	OF
PROJECT LOCATION		SKETCH			
TIME	DESCRIPTION OF DAILY ACTIVITIES				
THIS FIELD REPORT PROVIDES ONLY THE RESULTS OF OBSERVATIONS AND TESTS BY ENVIRONMENTAL SOLUTIONS, INC. PERSONNEL. THIS REPORT SHOULD NOT BE CONSTRUED AS SUPERVISION, DIRECTION, OR A RECOMMENDATION					
Prepared By:		TRC ENVIRONMENTAL SOLUTIONS, INC.			
Date/Time:		21 Technology Drive Irvine, California 92618			

[illegible]

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE NO. AND TYPE	U.S.C.S.	PROFILE/ LITHOLOGY	BORING NO. _____	SHEET <u>1</u> OF _____		
						DRILLING CO./RIG _____	COORDINATES N _____		
						AND DIMENSION _____	E _____		
						FIELD ENGINEER _____	DATE BEGAN _____		
						EDITED BY _____	DATE FINISHED _____		
						CHECKED BY _____	GROUND SURFACE EL. _____		
						DESCRIPTION			
0									
5									
10									
15									
20									
25									
30									
35									
40									
45									
REV. 1.0								<b>FIGURE 1</b>  <b>EXAMPLE FIELD BORING LOG</b>  WASTE DISPOSAL, INC. SANTA FE SPRINGS, CALIFORNIA  <b>TRC ENVIRONMENTAL SOLUTIONS, INC.</b>	
CLIENT _____									
PROJECT NO. _____									
LOCATION _____									

ATTACHMENT C

**TRC**